



3 1761 11849851 8

CAZON
SM
-D 31



Ontario

60

Bain: In Chief

ROYAL COMMISSION OF INQUIRY INTO CERTAIN
DEATHS AT THE HOSPITAL FOR SICK CHILDREN AND
RELATED MATTERS.

Hearing held
8th floor
180 Dundas Street West
Toronto, Ontario

The Honourable Mr. Justice S.G.M. Grange

Commissioner

P.S.A. Lamek, Q.C.

Counsel

E.A. Cronk

Associate Counsel

Thomas Millar

Administrator

Transcript of evidence
for

November 2, 1983

VOLUME 60

OFFICIAL COURT REPORTERS

Angus, Stonehouse & Co. Ltd.,
14 Carlton Street, 7th Floor,
Toronto, Ontario M5B 1J2

595-1065



ROYAL COMMISSION OF INQUIRY INTO CERTAIN
DEATHS AT THE HOSPITAL FOR SICK CHILDREN
AND RELATED MATTERS.

Hearing held on the 8th Floor,
180 Dundas Street West, Toronto,
Ontario, on Wednesday, the 2nd
day of November, 1983.

- - - - -

THE HONOURABLE MR. JUSTICE S.G.M. GRANGE - Commissioner
THOMAS MILLAR - Administrator
MURRAY R. ELLIOT - Registrar

- - - - -

APPEARANCES:


| | |
|---------------------|--------------------------------|
| P.S.A. LAMEK, Q.C.) | Commission Counsel |
| E. CRONK) | |
| D. HUNT) | Counsel for the Attorney |
| L. CECCHETTO) | General and Solicitor General |
| | of Ontario (Crown Attorney |
| | and Coroner's Office) |
| I.J. ROLAND) | Counsel for The Hospital for |
| M. THOMSON) | Sick Children |
| R. BATTY) | |
| D. YOUNG | Counsel for The Metropolitan |
| | Toronto Police |
| W.N. ORTVED) | Counsel for numerous Doctors |
| K. CHOWN) | at The Hospital for Sick |
| | Children |
| E. MCINTYRE | Counsel for the Registered |
| | Nurses' Association of Ontario |
| | and 35 Registered Nurses at |
| | The Hospital for Sick Children |

(Cont'd)



APPEARANCES: (Continued)

| | |
|-------------------------------|--|
| D. BROWN | Counsel for Susan Nelles - Nurse |
| G.R. STRATHY) E. FORSTER) | Counsel for Phyllis Trayner - Nurse |
| J.A. OLAH | Counsel for Janet Brownless - R.N.A. |
| B. KNAZAN | Counsel for Mrs. M. Christie - R.N.A. |
| S. LABOW | Counsel for Mr. & Mrs. Gosselin, Mr. & Mrs. Gionas, Mr. & Mrs. Inwood, Mr. & Mrs. Turner, and Mr. & Mrs. Lutes (parents of deceased children) |
| F.J. SHANAHAN | Counsel for Mr. & Mrs. Dominic Lombardo (parents of deceased child Stephanie Lombardo); and Heather Dawson (mother of deceased child Amber Dawson) |
| W.W. TOBIAS | Counsel for Mr. & Mrs. Hines (parents of deceased child Jordon Hines) |
| J. SHINEHOFT | Counsel for Lorie Pacsai and Kevin Garnet (parents of deceased child Kevin Pacsai) |



Digitized by the Internet Archive
in 2024 with funding from
University of Toronto

<https://archive.org/details/31761118498518>



INDEX OF WITNESSES

| <u>NAME</u> | <u>Page No.</u> |
|--|-----------------|
| <u>IZUKAWA</u> , (Dr.) Teruo; Resumed | 3325 |
| Cross-Examination by Mr. Tobias | 3325 |
| Cross-Examination by Mr. Shinehoft | 3327 |
| <u>BAIN</u> , (Dr.) Harry William; Sworn | 3329 |
| Direct Examination by Mr. Lamek | 3329 |

INDEX OF EXHIBITS

| <u>No.</u> | <u>Description</u> | <u>Page No.</u> |
|------------|---|-----------------|
| 245 | Curriculum Vitae of Dr. Harry William Bain. | 3334 |



---Upon commencing at 10:00 a.m.

DR. TERUO IZUKAWA, Resumed

THE COMMISSIONER: Yes, Mr. Tobias.

MR. TOBIAS: Thank you,

Mr. Commissioner.

CROSS-EXAMINATION BY MR. TOBIAS:

Q. Dr. Izukawa, my name is Warren Tobias and I act for the family of Jordan Hines.

A. Yes.

Q. I have had an opportunity to review his medical chart and it would appear from the chart that you had virtually nothing to do with the Hines child at all. Is that your recollection?

A. That is correct. Again the patient was referred to me for admission.

Q. For admission only, I take it?

A. Yes, that is correct.

Q. So that the reference at page 55 of the medical chart, and I don't think, Mr. Registrar, it is necessary for the Doctor to have this in front of him, but the exhibit, Mr. Commissioner, is 103 and I am referring to the admitting sheet. Where it indicates that you are the referring physician, I take it that that



1
2 reference is there only because you happened to be
3 on duty in emergency at the time the child came
4 into the Hospital?

5 A. No, the more likely sequence
6 of events is that I would receive a telephone call
7 from the outside physician asking me to have the
8 child admitted and the circumstances and I would
9 arrange for that.

10 Q. I take it that that was
11 Dr. Shams in this particular case of North York
12 General.

12 A. Dr. Shams, that is correct.

13 Q. So he would have referred
14 the patient to you. However, the actual physician in
15 charge was Dr. Fowler and therefore you would have no
16 information whatsoever on the child's clinical
17 course?

18 A. That is correct, not in detail.

19 Q. Doctor, because you have
20 answered all of my questions this morning correctly
21 you have won a major prize. You have been spared
22 from one of life's most boring experiences and that
23 is cross-examination by myself.

24 I have no further questions,
25 Mr. Commissioner.



1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

A. Thank you very much.

MR. STRATHY: That is one statement
that none of us is going to touch, Mr. Commissioner.

THE COMMISSIONER: You now have
a sort of a double credit I think, Mr. Tobias.

MR. TOBIAS: Yes, thank you.

THE COMMISSIONER: Now,
Mr. Shinehoft?

MR. SHINEHOFT: I think,
Mr. Commissioner, I might be equally as long with
this witness.

CROSS-EXAMINATION BY MR. SHINEHOFT:

Q. My name is Jack Shinehoft,
Doctor, and I represent the parents of the Baby
Kevin Pacsai. It is my understanding, Doctor, that
you had nothing to do in the treatment of this baby.
Is that correct?

A. That is correct.

MR. SHINEHOFT: I have no further
questions, Doctor, thank you very much.

THE COMMISSIONER: Mr. Olah?

MR. OLAH: You will be delighted
to know, Doctor, that I have no questions, but what
I did want to do was correct the record, since I
seem to have been corrected quite a few times
yesterday.



1
2
3 Mr. Tobias yesterday,
4 Mr. Commissioner, you will recall, seemed to suggest
5 that the three other pathological symptoms don't
6 start at the time of apnea and I just want to
7 refer you to pages 7713 and 7715 of Volume 38 where
8 all four pathological signs seem to be triggered
9 by apnea and take time to develop.

10 MR. TOBIAS: Mr. Olah, could I
11 have that reference again, please?

12 MR. OLAH: Sure. Pages 7713 and
13 7715 of Volume 38. Thank you, Mr. Commissioner.

14 THE COMMISSIONER: Fine, thank you.
15 Mr. Roland?

16 MR. ROLAND: I have no questions,
17 Mr. Commissioner.

18 THE COMMISSIONER: Miss Chown?

19 MS. CHOWN: No questions, thank
20 you.

21 THE COMMISSIONER: Miss Cronk?

22 MS. CRONK: I have no questions,
23 Mr. Commissioner. Dr. Izukawa, thank you for coming
24 back this morning.

25 THE COMMISSIONER: Well, welcome
back, Mr. Lamek.

MR. LAMEK: Thank you, sir, a very



1
2 good thing I showed up early this morning.

3 May I call please Dr. Harry William
4 Bain.

5 MS. CECCHETTO: Mr. Commissioner,
6 perhaps before Dr. Bain begins his evidence,
7 Mr. Cimbura was asked to answer two questions.
8 Mr. Roland provided the answer to one question.
9 At Volume 53, page 1910, Mr. Labow asked with respect
10 to Exhibit 213 if he could indicate on page 6 of
11 Exhibit 213 when Case No. 3 had received its last
12 dose of digoxin. Mr. Cimbura indicates that he has
13 checked and the time is approximately 3 and 3/4
hours.

14 THE COMMISSIONER: All right, thank
15 you.

16 DR. HARRY WILLIAM BAIN, Sworn

17 DIRECT EXAMINATION BY MR. LAMEK:

18 Q. Dr. Bain, I understand that
19 until 1976 you were the Chairman of the Department
of Pediatrics at the University of Toronto?

20 A. That is true.

21 Q. And you were Physician-in-
22 Chief for the Hospital for Sick Children until 1976?

23 A. That is true.

24 Q. I believe we heard recently
25



1

2

from your successor, Dr. Carver, in that position?

3

A. I believe so.

4

Q. Forgive me if I try to

5

summarize a long and distinguished career, Doctor,

6

in just a few minutes, but you hail from Cache Bay,

7

Ontario which is in the Sudbury area, as I understand
it?

8

9

A. Sudbury is in the Cache Bay
area.

10

11

Q. I'm sorry, you are absolutely
right. My former senior partner was from Rat Portage
and he used to say much the same thing.

12

13

You were graduated from the Faculty
of Medicine, University of Toronto, in 1944.

14

15

A. Correct.

16

17

Q. Then did an internship with
the Toronto General and subsequently went off to war.
You served in the Royal Canadian Army Medical Corps
and were discharged in 1946.

18

19

A. Yes, sir.

20

21

Q. After postgraduate training
in Toronto and Winnipeg you received your certifica-
tion in pediatrics in 1949.

22

23

A. Yes, sir.

24

Q. And became a Fellow in the

25



1
2 Royal College of Physicians and Surgeons of Canada
3 in 1950.

4 A. Correct.

5 Q. The Laurentian University in
6 Sudbury, recognizing its position and yours, awarded
7 you the Honourary Degree of Doctor of Letters in
8 1976, I understand.

9 A. Correct.

10 Q. And you won the Queen's Jubilee
11 Medal in 1978 and this year were awarded the Ross
12 Award by the Canadian Pediatric Society.

13 A. Yes, sir.

14 Q. As I understand it, you
15 joined the full time staff of the Hospital for Sick
16 Children in 1951, after a short period of carrying
17 on a practice in Sudbury?

18 A. That is correct.

19 Q. And you remained with the
20 Hospital for Sick Children ever since apart from
21 visiting professorships at other hospitals and
22 universities?

23 A. That is correct.

24 Q. You became the Physician-in-
25 Chief of the Hospital for Sick Children, which I
understand is the Chief of Pediatrics there in 1966.



1

2

A. Correct.

3

Q. As you said, you held that

4

post until 1976 and since then have enjoyed the

5

rank of senior staff physician at the Hospital.

6

A. Correct.

7

Q. You have held, you said,

8

corresponding appointments in the Faculty of Medicine,

9

University of Toronto while you have been at the

10

Hospital for Sick Children?

A. That is correct.

11

Q. In addition to your work at

12

the Hospital for Sick Children, Doctor, I understand

13

you are a consultant in pediatrics at the Toronto

14

General, at the Wellesley and at the Women's College

15

Hospital here in Toronto.

A. That is correct.

16

Q. An Honourary Consultant in

17

pediatrics at the Clarke Institute of Psychiatry.

18

A. Correct.

19

Q. And a senior consultant in

20

pediatrics at the Princess Margaret Hospital?

A. Correct.

21

Q. And you have held visiting

22

professorships in Australia and in Peru and, since

23

1969, have been the Chairman and Co-Ordinator of the

24

25



1

2

University of Toronto Sioux Lookout Project.

3

A. That is correct.

4

5

Q. Would you just tell us, for
our curiosity, Doctor, what is the Sioux Lookout
Project?

6

7

8

9

10

11

12

13

A. It is a Health Care Delivery
Scheme for the Native People of Northwestern
Ontario that the Department of Pediatrics started
in 1969 and then it spread to the entire Faculty of
Medicine and other faculties of the university. It
covers about 150,000 square miles from Sioux Lookout
north to Hudson's Bay with about 27 Indian reserva-
tions nursing stations, what have you.

14

15

16

Q. You are a member of several
professional societies including the American and
Canadian Pediatric Societies?

17

18

19

A. Correct.

Q. And have published on a

number of different topics over the course of your
career.

20

A. That is correct.

21

22

Q. Doctor, I won't embarrass you
any further with the recital of your accomplishments.

23

24

25

May the curriculum vitae of
Dr. Bain be the next exhibit please, Mr. Commissioner.



THE COMMISSIONER: Exhibit 245.

---EXHIBIT NO. 245: Curriculum Vitae of Dr. Harry William Bain.

MR. LAMEK: Q. Dr. Bain, moving then to the matters that particularly concern this Commission, in the fall of 1980 and in the late winter of 1980/1981, were you aware of concerns in the Hospital with respect to an increase, apparent increase in the number of deaths occurring on the Cardiology Wards 4A and 4B?

A. No, I was not.

Q. I take it from that answer that at that time in that period nobody, to your present recollection, discussed deaths on the cardiology wards with you?

A. That is true, and perhaps I should say a word, Mr. Lamek, about that. When the new Chairman of the Department came I felt that it was wise to keep a very low profile and not to be in his way. There is nothing more difficult than coming in to take over a job and have someone breathing down your neck.



B
BB/cr

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

So, I also had planned to take an early retirement and was in the process of gearing up for that in June of 1981 or September of '81.

So, I acquired an office away off the beaten track and kept out of sight as much as I could. I think that normally I would hear all the gossip in the Hospital but I did not hear anything about that.

Q. I take it however that in March of '81 or towards the end of March you became aware that certain events had occurred on the cardiology wards which culminated in the arrest of a nurse on that ward?

A. I was. I was in Disneyland at the time, one of the two winter holidays I have ever had and the California papers had it. So, I was aware of it before I came home. That was my first awareness.

Q. Now, between the time of your return home in the spring of 1981 and the discharge of Nurse Nelles at the end of the Preliminary Inquiry in May of 1982, in roughly a year's period of time, did anybody at the Hospital discuss with you the deaths that had occurred on the cardiology wards in the prior period?

A. Not to my recollection.



1

2

2

Q. Some time after the dis-

3

charge of Nurse Nelles, that is to say, some time in

4

or after May of 1982, were you asked to review the

5

charts of the children who had indeed died on or

6

shortly after leaving Wards 4A/B?

7

A. Yes, I was.

8

Q. And that in the period from

9

July, 1980 to March of 1981, those are the deaths we

10

are talking about?

A. Yes.

11

Q. Do you recall when that

12

request was made of you?

13

A. My recollection was it was

14

either late - I have forgotten just when Nurse Nelles
was discharged.

15

Q. I think about the middle of

16

the month, to my recollection.

17

A. Middle of May. So that it

18

was either very late May or very early June.

19

Q. What did you understand to

20

be the reason for the request, why were you asked to
do that review?

21

A. That is a difficult

22

question and I am just going to have to sort of

23

guess at what I think because no one said to me we

24

25



1
2 want you to do it because. But my own feeling at the
3 time, and I think the feeling of all in the Hospital
4 was one of complete frustration. It started with four
5 cases and expanded to seven, expanded to 20 some odd
6 and then to 44, whatever the number is, and don't ask
7 me numbers because I am thoroughly confused on numbers
at times.

8 We were all frustrated and I think
9 the feeling was, well, you always like to think they
10 called on you because they thought you might be able
11 to look at the charts and come up with something.
12 Maybe they asked other people and I was the last
13 choice, I don't know. But I think the reasoning was
14 that I had had a large consulting practice in
15 paediatrics for a good many years and I take it they
16 trusted my judgment and they really wanted to know,
17 you know, what is going on. I think it was as simple
18 as that, would you look, would you do a chart review
19 and even though a chart review isn't a very satisfactory
20 thing, would you do a chart review and see, you know,
21 if there is something that is staring everyone in
the face there or what. I don't think there is any-
thing more than frustration.

22 Q. Can I put it this way that
23 you considered that you were being invited to see if
24
25



4

1

2

you could help and see the wood for the trees?

3

A. I believe that that is

4

a very succinct statement.

5

Q. And there seemed to be a

6

different number of trees, depending when you looked?

7

A. Or the trees for the wood.

8

Q. All right.

9

A. I get that feeling, yes.

10

Q. And you prepared a report,

11

Dr. Bain, as we know. Do you have a copy of your
report with you?

12

A. Yes, I do.

13

MR. LAMEK: Mr. Commissioner, that

14

is Exhibit 48.

15

THE COMMISSIONER: Yes.

16

THE WITNESS: I have a problem in

17

that I have my bible with me which is a bunch of re-
prints and the report. I think I could balance it on

18

my knee but I would be looking down here quite a bit

19

and if I may I will just turn to the report.

20

MR. LAMEK: Q. No problem at all,

21

that is fine, Dr. Bain.

22

Let us be sure that we have the same

23

words and music though. We have a report that is

24

dated in typed script on its first front page June

25



1
2 24, 1982, with the additional typewritten notation
3 in parenthesis "(with some minor corrections and
4 clarifications 23 November, 1982)".

5 A. That is correct.

6 Q. An asterisk below that
7 which doesn't seem to be connected with - oh, yes.
8 The report is entitled "Report of the Assessment of
9 44 Deaths *..." and at the bottom refers us to
10 Appendix 6, page 54 re "49" deaths.

11 A. Yes.

12 Q. And then there is an
13 additional manuscript notation on the cover of the
14 report that we have. On the top right-hand corner
15 it says "Up-date 9 May '83" and then lower down on
16 the right-hand side "+ Additional Digoxin ..." and
17 something that I can't quite read.

18 A. Data. It is in my writing.

19 Q. "...data appendix 9 May '83".

20 A. Yes, sir, that is correct.

21 Q. And that is your handwriting,
22 is it?

23 A. That is my handwriting, yes.

24 Q. So, we have the same version
25 of the report?

A. Yes.



1

6

2

Q. And I take it this version

3

that we have, Doctor, which we have marked as Exhibit

4

48 is the report in its final or most recent form?

5

A. Every once in a while I

6

see a little clerical error mistake and I probably

7

have changed it in my own but insofar as ---

8

Q. But in matters of substance

I take it it is the same?

9

A. In matters of substance it's

10

the latest version.

11

Q. It is the latest version,

12

thank you.

13

Now, with reference to the notation

14

on the front that there was some minor corrections and

15

clarifications as at 23 November, 1982, Dr. Bain, they

16

may or may not be important as we go through the

17

report, if you can identify them for us will you let

us know?

18

A. I think they are identified.

19

Page 2, for example, I think the only ones are, and

20

I don't have my other one to compare, so, I am in the

same boat you are.

21

Q. All right. Doctor, you have

22

referred already to the difficulty of focussing on

23

the appropriate number of deaths to be considered here.

24

25



1
2 In Appendix 1 to the report, which begins at page
3 36 you listed the children whose deaths had apparently
4 been under investigation and had been reviewed and
5 you observed on page 3 of that Appendix No. 1 - page
6 numbered 3, which follows page 38, we then for some
7 reason revert to page 2 and then page 3. The final
comment on page number 3:

8 "There would not appear to be any
9 logic to the numbers game being played."

10 I take it that expresses your
11 frustration in not knowing how many you had to consider?

12 A. Well, I think the real
13 problem there was that it was supposed to be 4A/B
14 and then there was some in the ICU and some who had
15 never been there and then there was an additional one
16 where the parents wrote in and asked that their child
17 be re-reviewed. So, that was my concern, it was going
18 from 4 to 7 to 20 some odd to 40 some odd and then
I entered the game and made it worse.

19 Q. In fact, you reviewed the
20 charts of some 49 children, as I understand it?

21 A. Yes, sir.

22 Q. Now, Doctor, I don't know
23 whether we have any more logic in the number that we
24 have selected but are you aware that here we have
25



8 1
2 narrowed our focus to 36 children?

3 A. I think that is in my head,
4 sir, yes.

5 Q. All right. And I tell you
6 that those 36 comprise the children who died on the
7 wards in our period, actually on the wards from July
8 1 to March 31 and they number 34, plus Laura Woodcock
9 who died on the ward but the day before our period
10 began and Kevin Pacsai who died in the ICU within,
11 what, two, three, four hours of leaving the ward.
12 But Woodcock and Pacsai are the only additions to
13 the actual on-ward deaths?

14 A. Okay, I don't think I was
15 aware of that.

16 Q. Well, here then we will be
17 looking at a smaller number of children than you
18 in fact reviewed?

19 A. Yes.

20 Q. Could we look at, just to
21 clarify those names, Doctor, if you could turn to
22 page 36 of the report, Appendix No. 1. Perhaps I
23 can just give you the names in which we are interested
24 from your group 1A. Among our children are Adamo,
25 No. 1, Nos. 5 and 6 Fazio and Floryn, Nos. 8, 9
and 10, Gage, Gardner and Gionas, No. 12 Heyworth,



Nos. 15 to 17, Leith, MacDonald and Murphy, 19 to 21
Perreault, Shrum and Thomas and 23 Volk.

And then, Dr. Bain, if you would
turn to page 37 where you list those babies who fall
into your groups 1B and 2, all of those children fall
into our 36 and the only additional child, as I have
said, is Woodcock.

So, really, the additional children
whose charts you reviewed whose deaths are not under
investigation here are all contained in your group
1A?

A. Right, correct.

- - - -



2nov83
C
DMra

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

Q. Having thus, I hope,
identified the children in whom we are interested,
could I ask you to turn to page 1 of the report,
your introduction.

A. I wonder if I could ask
a whatever of you.

Q. Of course.

A. I would like very much,
because I spent a lot of time on it, I would like very
much to read my conclusions which are five minutes
and one page.

Q. Yes.

A. And a half page of other.
Just so that everything I say from now on is in that
context. Is that permissible?

Q. Of course. I have no
objection at all to that.

A. I would also warn you that,
as I told you before, whenever I go on a speaking-or
anything else, I get a surge of adrenalin but to
date, it has not resulted in ventricular fibrillation,
but if it should, don't try to resuscitate me!

Q. We don't promise to be much
help but we will be sympathetic, doctor.

A. Just that you took me



C2

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

by surprise this morning. I thought I was going to have an hour to settle down.

Q. So did I. So did I.

A. So, if I may just...

"In a review of the clinical and laboratory data..."

of whatever number of patients.

"...who died on or after being on Wards 4A or 4B during the period 1980 to March 1981..."

That is page 34, by the way.

"...I was unable to attribute death to other than natural causes in 34 of the 37 patients in whom, in the preliminary hearing, no evidence was presented regarding abnormally high digoxin levels in body fluid and tissues.

2. In three patients, Babies Gosselin, McKeil and Velasquez, there was a question of an adverse reaction to drugs in two and an elevated level of digoxin in one, which had occurred on the day prior to his death and had been discussed with his parents.



C3

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

3. Evidence was presented in the preliminary hearing that digoxin levels in body fluids and tissues were abnormally high and allegedly responsible for the deaths of seven babies.

4. Of these seven babies, Cook, Estrella, Inwood and Miller all had severe complex congenital heart disease which could have accounted for their deaths."

I left Lombardo out of that because she had what some people might call complex, but it is a known syndrome of tetralogy of Fallot, so I left that out.

Q. I should tell you Dr. Bain, that in my copy someone has inserted it.

A. I have, just to call that to my attention. That was one of the things that was written. Sometimes I leave them out just to see if people have read my report.

I wrote then, and I think the wording should be very carefully listened to:

"5. Baby Hines almost certainly had Sudden Infant Death Syndrome."

I might modify that at some time



C4

1

2

to missed-SIDS, but that is neither here nor there at
the moment because it is not in my report.

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

"6. Kevin Pacsai may well have had
idiopathic adrenal insufficiency
of the newborn with death being
due to very high potassium level,
as evidenced by the biochemical
laboratory data (in Hamilton and
Toronto) and the e.c.g. changes
(peaked T waves) at the time of his
cardiac arrest."

No. 7, and the final one:

"7. All of the patients had under-
lying medical conditions which could
have caused cardiac arrest and
death. It is possible that toxic
levels of digoxin could also have
been the cause. From perusal of
the media and the testimony in the
preliminary hearing transcript..."

and that is all I had.

"...digoxin administration and
overdosage are alleged. This raises
the question of deliberate admini-
stration or accidental administra-
tion before or after the cardiac



C5

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

arrest..."

or "during" should have been in there.

"...or validity of the laboratory
test results."

By that I meant an interpretation,
not validity, not the numbers. The numbers are all
there.

The next half page and then I will
stop boring you with this, the Recommendations, and
I said:

"1. As it is apparent that every-
thing hinges on the toxicological
data, these data should be re-
viewed by Mr. Cimbura's peers and
his results duplicated by other
experts in the field using both
Mr. Cimbura's methodology and,
hopefully, their own methodology.

2. A full epidemiological
study, such as the one carried out
by the teams from the Centre for
Disease Control in Atlanta, Georgia,
and from the Federal Government of
Canada in the Vitamin E/Epinephrine
incident, should be initiated as
soon as possible."



C6

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

Which was brought up in Mr. Vanek's preliminary hearing.

"3. The overall medical conclusions arrived at by the author of this report, the 'cardiac status and prognosis ratings' assigned by Dr. Rowe and Dr. Freedom and the assessment of the digoxin data by Dr. Stuart MacLeod and Dr. Spielberg should all be subject to study by a panel of appropriate experts, as should the pathological findings at post mortem, and the validity of the clinical chemistry laboratory results."

So, I just wanted - in Medicine, I should have learned a lesson, and we have before, that you put the conclusions at the beginning not at the end, and I slipped on that.

Thank you very much.

Q. Not at all, doctor. That is helpful.

Having then reviewed the point at which your review arrived, may we go back to the point at which it began.

A. Yes.



C7

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

Q. On page 1, starting at the middle of the page, there are what I would perhaps call terms of reference. They may have been self-imposed because I understand from what you said earlier that nobody told you precisely what they had in mind here.

A. That is correct.

Q. But you took as the purpose of this review to determine in retrospect (a) if you would have arrived at any other conclusions than those previously arrived at regarding the diagnoses; or (b) if you would have had concerns of their mode and time of dying.

Do I understand from that, doctor, that what you set out to do was to put yourself in the position of the treating physicians at or immediately after the time of death of each of these children?

A. Yes. I will try to clarify that a little bit because it is not a satisfactory thing.

I, in effect, was doing a chart review and, therefore, I was seeing things through everyone else's eyes.

Having had a consulting practice for a good many years, I think probably after six,



C8

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

seven or ten years of that practice, I learned a valuable lesson, and that was to take the letter from the referring doctor and not read it, because you had your mind made up ahead of time; not read it until after you had taken your own history and done your own physical examination because he obviously had drawn a conclusion that -- he would not have sent the patient if that conclusion had been acceptable to either himself or to the parents. So it is a bad second best, a chart review, but in effect, what you have stated is correct, yes. It was through someone else's eyes and trying, knowing your doctor is helpful at times and naturally, I would know the staff people but not the resident people too often.

Q. I think I perhaps need a little more than that, doctor. You said in the succeeding paragraph on page 1, that it was difficult to put out of your mind the things that had been buzzing around since the dates of those deaths.

A. Yes.

Q. To the extent you were able to do that, you tried to do it?

A. I tried very hard and I am still trying.

Q. Yes, of course. And putting



C9

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

yourself back into the position as it existed in the fall and winter of 1980-1981 and into the spring of 1981, you tried to look at these charts as they would have been seen then by the attending physicians?

A. That is true. And that was difficult from the point of view that everyone else had looked at them as a lump.

Q. Yes.

A. And naturally if I look at one in a month and another one at the end of the month or so -- what I was trying to say to myself was, should any alarm bells have been pressed at that particular time, taking into account this is number one, this is number two, and that sort of thing. That is why the epidemiology stuff got into my recommendations at the end.

Q. I don't promise in the course of today to stay away entirely from that, but I do understand what you were doing; asking yourself whether at the time the physicians should have been wondering --

A. Correct.

Q. -- about the sequence of events.

A. Yes.



C10

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

Q. We will see in some cases, Dr. Bain, that you do indeed refer to digoxin levels that did not become available in some cases until many months after the deaths of these children.

A. Well, I believe my last paragraph covers that in the sense that I said I could not put out of my mind what was in the media and I said I believe that I had looked at the trial transcript.

Q. Yes. And such digoxin level information as was available there?

A. Yes, that is right.

Q. So, to an extent, you were using information which may not have been available at the time of the actual deaths?

A. Correct.

Q. It is important for an understanding of the report, doctor - and I don't want to belabour the point, but do I understand it correctly, your report doesn't tell us necessarily what you thought in June of 1982, looking back over the whole thing? It tells us what you believe you would have thought had you been in the position of these physicians at the time of the deaths?

A. Yes. I guess what I will



C11

1

2

say is the same as that, so stop me if I am.

3

Q. Yes.

4

A. It would be that I agreed

5

or disagreed, but there is one further thing that I

6

had that you have not mentioned that becomes very

7

important; that is, that I had the post mortem data

8

in a large number of them.

9

Q. Yes.

10

A. And that weighed very

heavily.

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25



DP/ak

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

Q. Yes, and that may not have been available at the time.

A. It would not have been because --

Q. With respect to all of these.

A. The gross, as you know, they have a feeling about it within 24 or 48 hours but as far as the microscopic causes, they are anywhere up to six months.

Q. Although we have tried to draw that distinction, Dr. Bain, do I take it that in the case of many of these children, looking at them individually, your opinion as to the probable cause of death was the same in 1982 as it would have been in 1981 had you looked at them then?

A. I believe so, but you see, the most important part of medicine is the history and the physical examination and that makes 95 per cent of your diagnoses. You can throw the laboratory and things out as far as I'm concerned because you formulate your diagnosis 95 per cent of the time, and your investigation should be to corroborate or not.

I did not have that. I was not able to take my own history, I was not able to do my own physical examination. Probably the most important



D2 1
2
3 thing in physical examination is to look at a child
4 and say, is the child sick. That may sound simple,
5 and the only people I know who can do it are mothers
6 because they know the change that comes up, and
7 some doctors; and some doctors never learn. So I
8 could not say - to know whether that child looks
9 sick because I could read somebody's note. There
10 would be a variety of notes there by students, by
11 residents, by up-the-line, and you will get a great
12 discrepancy.

13 Q. I guess all I'm suggesting
14 to you, Dr. Bain, is to the extent you are able to
15 do it, given the restriction of simple chart review
16 and all the shortcomings of that, you were attempting
17 to put yourself in the 1980/1981 position and say
18 what would I have considered to be the probable
19 cause of death of this child.

20 A. Yes.

21 Q. And in many respects, even
22 anything you have learned in the succeeding year
23 probably would not have changed your opinion in
24 some of the cases.

25 A. Or did I see gross errors of
judgment, of a differential diagnosis, something
like that. Yes, that is the sort of thing.



D3

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

Q. I don't know, Dr. Bain, whether in the course of these 15 months that have passed since you wrote your report other information has come to you or other knowledge has come into existence. It may be that from time to time in the course of today I will be asking you for your current opinion as to the probable cause of death of some of these children. It may or may not have changed since the time you wrote the report.

A. Yes.

Q. Doctor, on page 2 of the report, I just want to be clear what it is you had available to you by way of information. You noted on page 1, turning back for a moment, in the final paragraph on page 1, that as a member of the Risk Management Committee of the Hospital you had some other minimal information.

I wonder if I can ask you about that first, please?

A. Yes.

Q. Had the Committee considered any or all of these deaths prior to the time you wrote your report?

A. I was made Chairman of a special ad hoc committee to look at just this and



D4

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

that was just early June.

What sticks in my mind, and why I put that in, and this is just as clear as a bell to me, it was referring to one particular thing only. I can't tell you when it was exactly, whether it was then or whether it was a month or two prior to that, one of the pathologists came to the Risk Management Committee to discuss the method of blood collection on Baby Estrella, so I'm not sure when that was, talking about the high levels.

When I heard how the samples had been collected I was not very happy, and that is the minimal bit of information that even at the beginning I thought to myself, you know, look hard at everything.

Q. Other than that, you recall no other reservation that came to you in the context of the Risk Management Committee or in any other context that did not appear in the charts of these children?

A. That is true.

Q. Did you, Dr. Bain, either in the course of reviewing or after having reviewed the chart of any of these children discuss the case with the attending physician?



1
2
3 A. I do not believe I did. I
4 discussed only for the purpose of the risk
5 classification which there I discussed with Dr. Rowe
6 in an overall way and he in turn discussed with
7 Dr. Freedom but I did not discuss it with the
8 physicians.

9 Q. Was that scoring of severity
10 and prognosis that Drs. Rowe and Freedom did for you,
11 was that done at the outset of your review or at the
12 end, or perhaps in the course of?

13 A. Yes, well, I think my
14 recollection - I don't have - I could get exact
15 dates for you, but in the first draft that I had
16 I think what I referred to was the classification
17 they had put on originally, remember in the M and M
18 conferences.

19 Q. Yes.

20 A. And somebody at the special ad
21 hoc Risk Management Committee said is there anything
22 better, so somebody in the Risk Management said,
23 yes, there is, there is the New York heart - whatever
24 it is, I have listed it there - classification so
25 they asked us if we would draw that out and see if
it could be applied there with some modification.

So that would be probably mid-June,



1
2 quite early on, just after I had come in with a
3 very rough draft.

4 Q. But certainly before your
5 final draft?

6 A. Yes, it was.

7 Q. So may I take it then,
8 Dr. Bain, that essentially your only source of
9 information here was the contents of the charts?

10 A. Plus the preliminary.

11 Q. The preliminary hearings?

12 A. Yes, and that one snippet
13 from the Risk Management.

14 Q. And at the end of the day
15 you placed the deaths into three categories as you
16 have stated on page 2, what you call Group 1A which
17 comprised the patients as to whom you concluded:

18 "...that there was no reason to
19 question or have concern that the
20 death was other than expected or
21 explained fully on medical grounds."

22 These were cases which you upon
23 review of the charts concluded did not give rise
24 to any question or suspicion in your mind?

25 A. Yes. What I did, Mr. Lamek,
was to take a dictaphone and go through the charts



1
2 from top to bottom and talk to myself, and then I
3 would add things in my hen tracks, then I would go
4 back over it and usually make a little summary of
5 that and try to put it - as things are often out of
6 order as you have seen in charts - and come back and
7 say to myself at the end of that, gee, there is
8 nothing here, or maybe I had better go over it
9 again - that sort of situation. In that group I
10 felt on the basis of what was in those charts, and
11 many of them then did have post mortem examinations
12 which I could lean on, that there was nothing of
concern.

13 Q. Let me understand clearly
14 though, what the conclusion was, Dr. Bain, was it
15 this? Please tell me if I do not have it exactly
16 right. With respect to the children who you placed
17 in Group 1A was it your conclusion that (a) their
18 deaths were entirely consistent with their anatomical
19 and clinical conditions and (b) there was nothing
20 in the chart, in the autopsy reports, that gave you
21 any cause to question the possibility of some other
cause of death?

22 A. That must be true because
23 that is what I ended up saying.

24 Q. Your second group, Group 1B,
25



1
2 comprises some 14 patients and with respect to those,
3 as I understand it, your review of the charts left
4 you with a question that had to be resolved before
5 you could come to a parallel conclusion to the one
6 you had arrived at in the 1A Group.

7 A. No, that is incorrect. What
8 I should have written, I have corrected it in my
9 own, not in yours, because it was a chart review,
10 14 patients were, for a variety of reasons - some
11 questions were raised. Those questions were raised
12 almost entirely by the other people. I could not
13 raise questions unless, you know, there was one or
14 so where they got a couple of doses of dig. close
15 together and I raised that question, but in these I am
16 referring to the fact that Dr. so and so said in
17 a letter to another doctor, I did not think this
18 baby should have died when it did, that sort of
19 thing. So the questions were raised by others, not
20 by me.

21 Q. By others, but in the chart?

22 A. Oh, yes, in the chart.
23 Usually, many of the things that you have covered,
24 as I say, some questions were raised. I cannot
25 say for the whole 14 a question was raised but
something, as far as I was concerned, had to be



1

2

looked at.

3

Q. One way or another something

4

occurred to you that you felt had to be looked at?

5

A. That is right.

6

Q. In the end, in the case of 11

7

of those 14 children, you were able, after consider-

8

ing the question, to be satisfied that it was not a

9

question that caused you any continuing concern?

10

A. That is true.

11

Q. And you were able to say,

12

therefore, with respect to those 11, as with Group

13

1A, their deaths were entirely consistent with the

14

clinical conditions as disclosed by the chart, and

15

you had no cause to consider any other thing as

16

having contributed to their deaths?

17

A. Only in that a few, like

18

Velasquez and whatever where I have spelled it out

19

a little bit later on, I postulated such things and

20

that is, you know, when you say can I prove it, no,

21

but that is my final opinion.

22

Q. Entirely right, Doctor --

23

A. Not final, it may change.

24

Q. Three of the 14, there was

25

still questions or shadows of questions hanging on.

A. Yes.



1

2

3

4

Q. And in each case with respect to some possible drug involvement, naloxone in one case and digoxin in another.

5

6

A. And prostaglandin in the third.

7

8

Q. I am interested in your formulation though of your conclusion with respect to Group 1B. Your second sentence:

9

10

11

"Except for three patients I was able to accept that death could have been due to natural causes."

12

13

14

You will forgive me, Doctor, that seems to me a rather tentative way of expressing a conclusion. Can you tell me precisely what you meant by that?

15

16

17

A. All I can say to that is, if you may notice, that is one of the areas that was changed I think. Do you see that?

18

19

Q. I don't know that.

20

21

22

23

24

25

A. I think I originally put that down, I will have to go back to my original "able to accept that death was due" but then when whatever allegation later on, information, came out and that dig. levels were said to be high, what have you, that I had to for my own peace of mind and



1

2

not to close my mind on thinking, said "could have
been due".

3

4

Q. In other words, you are saying

5

"consistent with clinical conditions"?

6

A. They are consistent with, but

7

if somebody drops off in the room here, and I hope
they don't, somebody might say, well, that is awfully

8

sudden and not consistent with anything, but some-

9

body then says he has a bad heart and we say, well,

10

gee, that is consistent with that.

11

Q. I understand that, thank you.

12

Then, your third classification

13

Group 2, comprised the four children first in respect

14

of whose deaths charges had been laid, that is to

15

say, Estrella, Pacsai, Miller and Cook together

16

with three others, Hines, Inwood and Lombardo who

17

had been named either at the preliminary hearing or

18

in the media as having suffered the same fate as

19

was alleged of the four.

A. That is true.

20

Q. Dr. Bain, in asking you

21

questions about your report, I want to start please

22

with the children whom you placed in Group 2 because

23

frankly I have to say I find that the most puzzling

24

part of your report in some ways.

25



1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

Perhaps we could turn please to
page 10 which is Section 3 of the report.

You say there --

A. Excuse me one just minute, I'm
having --

Q. Not all of the numbering comes
out very clearly but --

A. Yes, right.

Q. Page 10, Section 3, you say
you examined the history of these patients in great
detail and you go on to say:

"I attempted to ignore the digoxin
data in drawing conclusions..."

A. May I ask you, please, why?



2nov83
E
BMcra

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

A. Well, I guess it was getting back to what I said in my conclusions to my paper that I looked at the patients and trying to go back to square one and seeing what I would have thought at that time not knowing these things. So, I attempted to put that out of my mind but couldn't do it.

Q. Yes.

A. You know, I know that that doesn't come through very well but I don't know what other way I could state that. I tried to look at the patients as though they had a medical disease which surely they had because they were referred to hospital and to think, to see the degree of seriousness of that, whether it could account for things and then put the dig. back in.

Q. All right.

A. And that's where I came in my conclusions where I put the dig. back in it puts me back at square one, yes.

Q. Yes, sure. Okay, but you did that even though in some of those cases, and I think of Miller and Cook for example, the digoxin levels were known within 24/36 hours of the deaths. Miller's digoxin levels were known on the evening that she died.



Bain
dr.ex. (Lamek)

E2

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

A. Yes, yes, yes, I know that,
yes.

Q. All right.

A. As a group I took it without
dig. and with dig.

Q. All right. Is the thought
in doing that, Dr. Bain, that if on the basis of
expert pharmacological opinion an innocent explanation
can be found for those levels, distortion, interpre-
tation, mismeasurement, something of that sort, if an
innocent explanation could be found for those levels,
these deaths could then be explained fully on the
basis of the clinical conditions of the children?

A. That was my feeling and I
think to draw any other conclusion is to cut off
thinking.

Q. Yes.

A. That is the problem. Once
you pigeonhole something then you say, there it is,
I don't have to think about it anymore. I wanted to
think about them -- I don't know whether I want to
think about them or not but I am still thinking about
them and every day things change.

Q. In other words, had you
concluded that, for example, Justin Cook had a death



Bain
dr.ex. (Lamek)

E3

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

which simply could not be explained on the basis of his clinical history then digoxin or not that death would still be a mystery?

A. That's true. Justin Cook is -- well, I suppose you will want to come to that nevertheless he had those cyanotic attacks which were pretty serious but we will come to that I take it.

Q. But we should not read this section of your report as suggesting that the respective clinical conditions of these children did cause their deaths but merely that they could have caused their deaths?

A. That is why I asked to read the conclusions in my report first, Mr. Lamek.

Q. Yes.

A. Because that is precisely what I said in my conclusions.

Q. Now, the first child with whom you deal on page 11 is Justin Cook. We will go back to the report in a moment, Dr. Bain. Could I ask you at the outset though, do you have an opinion today about what in fact caused the death of Justin Cook?

A. That is a very difficult question for me to answer. On the face of it with the



E4

1

2

3

4

5

digoxin things, and if I knew enough about digoxin,
how quickly it kills and those sorts of things, and
you are a party to that with the last two days of
whatever.

6

Q. Yes.

7

8

9

10

11

12

13

A. I certainly would have to
say that he appears to have received a toxic dose of
digoxin and the data as presented substantiated it.
You know, I don't know, I've got to leave a little
out there because a few hours before he had had his
severe cyanotic attack when he had this second cyanotic
attack the residents who saw him all felt that it was
the same thing sort of. I may seem to be hedging --

14

Q. No, no.

15

16

17

A. -- but I want to keep an
open mind on it. But Cook above all, of all of the
cases there would appear to be clearcut evidence that
he had an overdose of digoxin.

18

19

20

21

Q. Well, Dr. Bain, the evidence
that we have heard so far, and I think particularly
the evidence of Drs. Rowe and Spielberg has been at
least at one on that score, each of them agrees that
Cook clearly had a toxic dose of digoxin.

22

A. Yes.

23

24

25

Q. Dr. Rowe has told us, as you



E5

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

may know, that in his opinion the digoxin toxicity was the cause of death. Dr. Spielberg, as you have done, reserves the possibility that it may not have been the cause --

A. Yes.

Q. -- although he doesn't question the administration.

A. I think it is because, and I don't know whether you want me to enlarge on these thoughts that go through my mind --

Q. I would be glad if you would, doctor.

A. I am not a clinical pharmacologist, but not being one that gives you the opportunity to ask questions because you don't have to know anything to ask questions of these superspecialists.

Q. I am aware of that, yes.

A. And sometimes they can't come up with the answers. I guess the little nagging thing in the back of my mind is that patients who take grandmother's bottle of digoxin pills and get a real whopping dose of it don't seem to die that quickly. Now, that is not intravenously, I grant you, but there is this question of having to get fixed



Bain
dr.ex. (Lamek)

E6

1

2

to tissues and the timing that comes in.

3

Q. Yes.

4

A. So, that is the only little --

5

but there is no question that he was not on ordered digoxin, he got digoxin, the levels are high, it is for those experts to decide high enough and was that what caused death. That is the only sort of little thing that bugs me.

9

Q. On page 11 of the report,

10

Dr. Bain, you have at the top of the page the heading

11

"Justin Cook" with certain basic information about

12

the child and then you have a summary. I take it,

13

pardon me, and I'm sure I don't even need to ask you,

14

that you never saw this baby?

15

A. I did not see any of them

16

to my knowledge.

17

Q. And you are accepting,

18

as of course I think you are entitled to do, the state-

19

ment in the chart as to events that occurred and

observations that were made?

20

A. I have to.

21

Q. Yes.

22

A. Or see that I don't accept

them.

23

Q. I am struck however by the

24

25



E7

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

way that you refer to the digoxin findings. The final sentence of the summary:

"However, this baby was not receiving digoxin and apparently digoxin was found in his blood and tissues."

Now, Dr. Bain, when you and I first discussed this report I said to you, you will recall, that there seemed to me to be a note of reservation that is repeatedly struck when you refer to the recorded levels of digoxin. I would ask you for example to look at page 16.

A. Could I back you up to that first page first because I remember vividly when you spoke to me about that.

Q. Yes.

A. But if you go down that page you will see "History" about line 6:

"Apparently he did well until 3 weeks before admission when he developed..."

Q. Yes, yes.

A. So, it is a manner of speaking. A little further when I would say things like 'we are told', and if you will go to the New



E8

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

England Medical Journal and the case records that come every week and somebody has to analyze them you will find time after time after time the doctor says 'we are told that' or 'apparently', and I think that probably it has just been ground into me and there was no sinister motive.

Q. Well, I am not suggesting a sinister motive in the slightest, Doctor. I look for example at page 25 on Allana Miller.

A. Yes.

Q. Where in the second paragraph from the bottom you refer to the biochemistry findings recorded in the chart. Her BUN was greater than 46, her electrolytes were normal, weight was this, blood pressure that, height, sodium, potassium, chlorides, and I contrast that with page 24 in the summary of Allana Miller when you refer in the last line to the 'allegedly high (toxic) levels of digoxin...'.

A. Yes.

Q. I am not suggesting anything sinister, Doctor, but is it fair that you were perhaps approaching those levels with a note of caution and reservation?

A. I suppose I was and I think you are a student of English, I think I heard that



E9

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

rumor somewhere, so I took the trouble to look. You know, I know what I mean and I don't think I had any of those motives but I looked it up in the dictionary and 'alleged', as you know, to be spoken or stated as if it could be proved.

Q. Yes.

A. So --

Q. All right.

A. Is that correct?

Q. We understand each, Doctor.

A. Thank you. You know, really, maybe in my subconscious there was something there that was making me write that but I don't think so I think it is the way I do things.

Q. Well, may we be at least clear now, Doctor, that although we know that the interpretation of those digoxin numbers may be the subject of some considerable debate, I take it you have no cause to question the actual measurements. What they mean is something else.

A. Absolutely.

Q. All right.

A. I think, now, I don't know whether that applies to all of them and, if not, as you ask me I will tell you that.



Bain
dr.ex. (Lamek)

E10

1

2

Q. Yes.

3

A. But I can't think of...

4

I suppose I can when the methodology of heating
things and a few things like that.

5

Q. Yes.

6

A. That bothers me.

7

Q. You are thinking of the

8

Inwood sample?

9

A. I am thinking of the

10

Inwood sample, yes.

11

Q. Or the method of collection

12

as in Estrella?

13

A. Yes, correct.

14

Q. And those would impair the

15

ability to interpret the results but the actual

16

measurement itself is not something that you have any

17

cause to question, I take it?

18

A. I know nothing about

19

methodology in clinical pharmacology and that is why

we needed their peer group to look at it.

20

Q. Could we go back then to

21

Justin Cook. As I have said to you, Dr. Bain, the

22

opinion that we have heard expressed here both from

23

Dr. Rowe and Dr. Spielberg and, as I understand it,

24

from you, is that this child apparently received an

25



Bain
dr.ex.. (Lamek)

E11

1

2

unprescribed dose of digoxin?

3

A. You have said apparently,

4

Mr. Lamek.

5

Q. Yes.

6

A. Yes.

7

Q. Well, we have to draw a

conclusion.

8

A. All right, correct, yes.

9

Q. We have no actual eye

10

witness evidence. I can put it a good deal more

11

clearly and strongly if I choose to, Dr. Bain.

12

A. No.

13

Q. And indeed the likelihood

14

is, as I understand the evidence that we have heard

15

so far, that he received not merely a dose but an
overdose of digox in.

16

A. Correct.

17

Q. Doctor, I don't think you

18

will be able to answer this question but I am

19

obliged to ask you. Do you feel able to express any

20

opinion as to when, how and by whom that dose may

have been administered?

21

A. When?

22

Q. In relation to his death.

23

A. I suppose the when question,

24

25



Bain
dr.ex. (Lamek)

E12

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

knowing nothing about clinical pharmacology I can express an opinion. It is a little difficult and I don't know whether you want this sort of thing brought up now, but there was a level of 72 at, what, 4:30 in the morning.

Q. Yes.

A. Something like that and then at six o'clock, and the baby was I guess the resuscitation had been called off, there is a level that is back down to 40 something that Mr. Cimbura has.

Q. I thought it was 68.

A. No, it was by Dr. Ellis but by Mr. Cimbura it is 48 on the same specimen. So, that makes me think that, you know, it was on the downswing, the alpha phase had come and had gone. I have this thing here.

Q. Ah, good.

A. This would be in that. So, that is the thing as to timing, if it were intravenously then it had to be on the downswing and the half-life is a half hour. So, somewhere about the time -- I could find it quickly here.

MR. ROLAND: I think Dr. Bain is referring to sample T27 on Exhibit 95.

THE WITNESS: That's right, page 2.



Bain
dr.ex. (Lamek)

E13

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

Ellis estimated 68 and Cimbura estimated on the same specimen 46.

Q. I don't have my copy of that with me.

A. All right. So, that just makes me think that, you know, the dose had to be given about that, you know, an hour or so before or somewhere in or about, if it were intravenously, it had to be in or about that time of the arrest or an hour before, sort of situation.

Q. Yes.

A. An hour or two because it as going up and now equilibrating and dropping.

Q. That could be one of the explanations for the apparent decline in the number?

A. Right. So, now, by whom, I wish I could answer that if it were so. If I go back to my conclusions again where I state what the possible mechanism was that it could be accidental or by design and if it were accidentally then naturally that would be a nurse. If it were by design...

Q. Who knows?

A. Who knows. Or a doctor. When I say a doctor --

Q. When you say accidentally



E14

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

it could be by a physician?

A. Yes, a nurse or a doctor.

Q. Dr. Bain, are you aware of any facts or circumstances surrounding the arrest and death of Justin Cook that might lead you to believe that an overdose was administered accidentally or by error to the child?

A. I have no such knowledge other than the thoughts that run through my own mind.

Q. All right.

A. No, I have no knowledge of that.

Q. In other words, other than perfectly understandable shrinking from the idea of intentional administration there is nothing other than that that pushes you towards accidental as a possible means of administration?

A. No. In fact, early on, you know, when I took on this study everything, and I think Judge Vanek was possibly caught in the same trap when the business of steady state was gone into that in order to get that sort of dose in had to be anywhere from 20 to 200 ampoules. Well, that took the possibility of accident right out and that's how I approached it because I knew nothing about digoxin



E15

1
2 whatsoever or about steady state until I convened
3 a meeting of the people, the clinical pharmacologists
4 because, as Dr. Hastreiter said at that time it had
5 to be murder because nobody could get 20 or 200
6 ampoules by accident. So, when it came down to
7 one, then certainly the possibility of accident has
8 to have or had to have entered into it.
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25



F
DM/cr

1
2 Dr. Spielberg in the course of his
3 evidence, Dr. Bain, raised the possibility that
4 digoxin could have been administered to Justin Cook
5 in the course of the resuscitation efforts following
6 the arrest. Now I don't ask you to comment on that
7 if you don't feel able to.

8 A. All I can say, and this is
9 why I need to defer to the clinical pharmacologist,
10 because the one bit of evidence that sticks out is
11 that 48 of Dr. Cimbura's as opposed to the 72, and
12 although you asked me to postulate when it was given
13 and I say an hour before, but the clinical pharmacologist
14 comes up and says that is consistent with being
15 given an hour before, it would have been just into
16 the arrest really at 4:30, so I have to agree with
17 Dr. Spielberg that that has to be looked at.

18 Q. It is possible?

19 A. Yes.

20 Q. I think to your right side
21 there, Dr. Bain, you will find a copy of the chart
22 of Justin Cook.

23 THE COMMISSIONER: The left side.

24 Q. I'm sorry, the left side.
25 Thank you, Mr. Commissioner. Audience right, stage
left, I am sorry.



1

2

2

A. I may have a little trouble
with things like this but I will do my best because
I have my own hen tracks of how I review the charts
but I will do my best to follow you.

3

4

5

6

Q. The only virtue of this
one is that it is paginated, that is all, it is easier
for us all to find the same place at the same time.

7

8

A. Thank you.

9

10

11

12

13

14

15

16

Q. Now, looking at page 27,
which is part of the progress notes, Doctor. The
top of the page contains a note of Nurse Scott, do
you see that, and I draw your attention to that merely
to suggest to you that there is a measure perhaps not
of confusion, I'm sorry to say less than clear history
on your page 13 of your report, in which you fail to
refer to two blue spells at 3:45 in the morning.

17

18

19

20

My only purpose in drawing your
attention to page 27 of the chart is to have us agree
that we are talking about the same thing, the earlier
blue spell I think there was at 1800 hours of the evening
before the death.

21

22

A. I think that is how I am
interpreting my own chart, I see, 3, 4, 5 hours he
had a blue spell similar to the previous one.

23

24

25

Q. Unhappily you have not



1

2

referred to a previous one.

3

A. Well, in any case ---

4

Q. We are not in any doubt

5

though.

6

A. There is no doubt ---

7

Q. There was a blue spell at

8

6 o'clock in the evening and then earlier the following morning.

9

A. And earlier the following

10

morning, yes.

11

Q. Now in the lower half of

12

page 27 of the chart, Doctor, there is a notice to

13

the events immediately before and then following

14

the arrest of this child. Do you attach, and I

15

am looking now at the last three or four lines on

16

the page, it begins at the end of the fourth line

17

from the bottom, do you attach any significance to

18

the fact that this baby went from a heart rate of

19

140 per minute into ventricular fibrillation. He

20

was defibrillated and then he went back into ventricular

21

fibrillation. Is that, in your experience, a usual

22

electrical mode of dying for children of this age?

23

A. That raises a whole - as

24

you know the electrical mode of dying in children is

25

said to be that the heart slows down and stops in the



1
2 vast majority of them, except if they have underlying
3 congenital heart disease and if the heart is large.
4 Some people tried to attach significance to the size
5 of the heart, that there is something to do with the
6 bulk, because the adult responds with ventricular
7 fibrillation.

8 Q. Yes.

9 A. On the other hand with all
10 of the things people get during an arrest, I don't
11 wonder at times that you get an irritable heart and
12 something happens.

13 The other thing that bugs me is that
14 in Dr. Fowler's paper, which I think is in the
15 evidence somewhere on convulsions, or at least - yes,
16 it was on accidental digoxin poisoning.

17 Q. Yes.

18 A. And in that he made two
19 points. One of them was, and you and I talked about
20 this previously about the fact you don't see
21 convulsions, whereas in a lot of these patients, and
22 we will go into that later perhaps, there were a lot
23 of babies who convulsed and I don't understand it.
24 He made another point that none of the babies went
25 on to ventricular fibrillation, now granted those
were normal hearts.



1

2

Q. Yes.

3

A. But I think if you also

4

look at Dr. Kauffman's evidence in Murphy, that other

5

Murphy, Gary Murphy earlier in the year at the inquest,

6

he too said that it was unusual for ventricular

7

fibrillation to occur as a result of digoxin. So I

8

guess what I am saying here is that I think when people

9

are terminal I think all sorts of things happen, be

10

it annoxia, acidosis or something somebody is giving,

11

whatever drug, that can cause ventricular fibrillation,

12

and the same whole business of SIDS that we will come

13

to, that some people feel that this is a spontaneous -

14

there is a group from Italy and Texas that feel strongly

15

about this. So I don't know, I am not trying to

16

avoid ---

Q. No, no.

16

A. In my own experience, I

17

don't remember that far back, about cases, we were not

18

monitoring them so I would not be around when they

19

were dying. From my, I guess you would call it book

20

knowledge and conference knowledge and that sort of

21

thing I have some concerns that - but I have no

22

concerns about - since 40 per cent of babies who died

23

of anything in this age group with congenital heart

24

disease may have fibrillation.

25



6

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

Q. I take it, Doctor, therefore, that in considering this chart you did not attach any particular significance to that observation, the child went into fibrillation?

A. That is true.

Q. Considering the anatomical condition of his heart?

A. Yes and the fact - well, all of the things I think on that one in particular I have a full page of drugs listed for that arrest.

Q. Yes.

A. There must be 25 of them here, I have it right here.

Q. That is found on page 30 of the chart.

A. I don't know it is even - is it there, because I have written it in.

Q. Dr. Mounstephen's list of drugs used in the arrest.

A. I see, okay, I had written it in in hen tracks as well, so I don't know.

Q. Okay. Doctor, reading this chart was it your impression even before the baby's serum digoxin levels became known, was it your impression that Baby Cook's death was not expected to



1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

occur just when it did?

A. That is a very difficult question. As I read the chart over he had had a severe blue spell the night before and people can die in those blue spells.

Q. Yes.

A. They don't often, but they may do so. He has another blue spell, so yes, people may have thought, although they didn't think he was going to have a blue spell and they had him on propranolol but it is not 100 per cent - so from my own point of view I guess I have given up years ago trying to predict when exactly, exactly when people are going to die. I take it as an affront at times if they die when I say they are not supposed to, but nevertheless I have certainly had many patients die when I didn't think they should.

Q. I don't suggest for a moment that the event always follows the expectation.

A. Yes.

Q. And believe me I don't intend to be offensive, but I don't regard phsycians as omniscient in that regard.

A. Thank you. You see, I was concerned. Was this the baby - you will excuse me



8

1

2

if I don't have everything correct, you know, he was pretty miserable that night and his leg was mottled.

4

Q. From the catheterization?

5

6

7

8

9

10

11

A. Yes from the cardiac cath, and cool to touch, and the pulses were weak, but they were there; then he had three large watery stools for some reason suggesting, you know, something is going on with this baby, he is sick, things are falling apart a bit or whatever. So I would have to say I wouldn't have liked it but I couldn't say that it should not have occurred at that point in time.

12

13

14

Q. You are aware from the reading of the chart, Doctor, that surgery had been scheduled for this child?

15

16

17

18

A. Correct.

19

20

21

Q. Fairly it was surgery that as I understand it was scheduled for the next day, Sunday, and therefore I take it something of an emergency situation?

22

23

24

25

A. Yes, that is right.

Q. You wouldn't normally schedule surgery for Sunday?

A. Not unless the surgeon was going away Monday and decided he had to, but you are correct.



1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

Q. To that extent that suggests the child was considered to be at some serious and imminent risk?

A. Yes.

Q. Can we, however, reasonably infer he was at least expected to survive long enough to get to surgery?

A. Oh, I think that goes without saying, yes.

Q. Now all the physicians who have given evidence here, Dr. Bain, have agreed that Justin Cook's death was consistent with his anatomical heart condition and his clinical condition, and it goes without saying that leaving the dig. aside that is an opinion you share upon your review of his chart?

A. Yes, that is true.

Q. Whether it was hoped he might survive until Monday, or Sunday, no one was surprised that with his condition he died, leaving aside the dig?

A. I think that is true, because as I say he was having these spells and he obviously was deteriorating, because the doctor - although we get a lot of Friday night referrals, Dr. Sanz up in Owen Sound is a first class paediatrician and he



10 1 doesn't do those sorts of things to us as a rule.

2 So Dr. Sanz was obviously worried about this patient
3 and sent him down, and the baby had not gained any
4 weight for two weeks. The mother said he was getting
5 progressively bluer, and I think he is blue all the
6 time now, so something was happening.

7 Q. I don't know whether there
8 is any point in going back again to as you say plug
9 in the dig. information, I think we are agreed
10 essentially that the probable conclusion to be drawn
11 is that an overdose of digoxin was administered to the
12 child whether it causes death, you have told me you
13 have some measure of reservation about it but you don't
14 know for sure.

15 A. Yes.

16 Q. And how, and by whom it was
17 administered is something about which you have no
18 opinion?

19 A. Correct.

20 Q. Now, Dr. Bain, working
21 backwards in time from Cook, the next child in your
22 group 2 is Allana Miller and your review of that
23 child begins on page 24 of your report; and such
24 digoxin data as were available to you are set out
25 on page 47 of your report.



11

1

2

A. Yes.

3

Q. Now, Dr. Bain, perhaps I

4

should ---

5

A. May I, I carry around in

6

my pocket, I have done it for two years now, a little
chart I made of all the dig. levels in my own hen

7

tracks and I will give you a copy, I made one up this

8

morning just so you - and I look at it on the subways

9

and streetcars, everywhere, to see if anything shines

10

through and these were done, this was from the trial

11

testimony and before anything else. If I may, just

12

in case I wander off the beaten track a little bit you

13

will see - I thought it wise to give you my thought

14

processes at the time rather than looking back because

these were part of my original report.

15

Q. That is very helpful,

16

thank you.

17

MR. LAMEK: Mr. Commissioner, we

18

may want this as an exhibit later, this is the only

19

copy.

20

THE WITNESS: There is nothing in it

21

that is not anywhere else but there might be questions.

22

Q. All of it compiled from

other sources I take it?

23

A. From the trial testimony,

24

25



12

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

preliminary trial testimony. Okay.

Q. Before we get into a discussion of Allana Miller, Dr. Bain, perhaps I should remind you that it was Dr. Rowe's opinion, subject to the views of the clinical pharmacologist of course as to interpretation of digoxin levels; subject to that, it was his view that Allana Miller was one of seven children, other than Cook himself, who were likely to have died as a result of digoxin intoxication, you may have been here when he gave that evidence.

A. I don't think I was, sir.

Q. And in particular the seven that he named in addition to Cook were Miller, Hines, Pacsai, Inwood, Estrella, Lombardo and Belanger.

A. They are similar to the ones in my conclusions.

Q. With the addition of Belanger?

A. Belanger, that is correct.

- - - -



2nov83
G
DPra

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

Q. And I tell you also what you may have, what has gone before in your mind, Dr. Bain, that Dr. Spielberg said with respect to Allana Miller that he was concerned that dig. may have played a part in this baby's death; that he had to consider that she may have received an unprescribed dose of digoxin, but he said that, of course, if such a dose had been administered, he could not say whether it had been administered in error or intentionally.

On the basis of your review of Allana Miller's chart, as I understand your report, you concluded that her clinical condition certainly, in the absence of any digoxin suspicion, could certainly explain her death.

A. I am just looking at page 26 and including the post mortem, and I guess a couple of things bothered me about her. Do you want me to proceed?

Q. By all means.

A. First of all, on the other side of the fence was the business that a doctor came -- at page 26, at about line 10:

"A doctor came to examine her and administered lasix.IV at 0240 hours. Five minutes later she began to convulse..."



G2

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

There is the old spectre of convulsions coming up again. I think you asked me to look something up and you and I discussed this; that I could not find anything about convulsions in dig. and, yet, I have found 16 patients who have convulsed. I don't know, I am going to feed that to those specialists, but she had a convulsion.

Now, on the other side of the ledger, yes, she had a serum level of 69. I think you know, I think you may have even stated this yourself in the cross-examination of Dr. Mirkin, and what we heard is that dig. in the blood may not be biologically active.

So, there, we have a level of 69 in the blood but, then, when we look at the thing that I threw the question to these people, to the clinical pharmacologists, in the tissue there was essentially none after two or three months. So, this is the whole business we have heard ad nauseum of the relationship between serum and tissue.

Q. Serum and fixed tissue.
We have heard here, doctor, there may well be a significant distinction between the levels in fixed as opposed to fresh.

A. Yes.



G3

1

2

Q. And these were fixed tissue?

3

A. Yes.

4

Q. In Cook's case, you will recall there were both.

5

6

A. Yes, the fixed and the fresh, that is correct.

7

8

9

10

11

12

So, this was, comparing it with other fixed tissues on that flow sheet I have that I look at on the subway, in some, the levels in the fixed tissues were still quite high, whereas in these, they were quite low. What is the meaning of that?

13

14

I cannot go beyond that. All I can say is, yes, that level of 69 is abnormal in the blood.

15

16

17

18

Q. Is there anything else in the history or clinical record that occurred to you as being of significance in considering her death and the possible reason for it?

19

20

21

22

23

24

25

A. I wondered about the lasix sort of thing because, again, I am not a specialist and I don't know whether it was discussed in the meeting in the last few days, but there has been a lot written in the literature recently that, throughout the world, they are seeing more dig.



G4

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

toxicity, for some reason. The question that comes up, is it due to the diuretics that people almost invariably get if they are getting dig. and that the diuretic alters the electrolytes, especially potassium and magnesium, and, boom, that is what triggers the event. So, I had a question mark on my own copy here beside the lasix, because, within five minutes, I think is what I've written, after getting lasix, she began to convulse and went on to arrest.

Q. On the question of convulsions, doctor, you have requested a paper by Dr. Fowler on Accidental Digitalis Intoxication in Children.

Exhibit 174, Mr. Commissioner.

Perhaps you and I can look at this together.

A. Thank you.

Q. Thank you. We can do it separately.

A. I think I gave that to you because it looks like my underlining on there. You may wonder how I know that it is my underling --

Q. You have a distinctive underlining!

Dr. Bain, on page 189 of that



G5

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

article, or that paper, Dr. Fowler and his co-authors have listed the significant findings that were seen in cases of digitalis intoxication, and the fourth one listed is convulsions, in the literature not a common finding but, in 6 per cent of the cases reported, convulsions apparently appear. So, it is not unknown --

A. Not unknown, correct.

Q. -- in the case of digitalis intoxication?

A. But pretty uncommon.

Q. Unusual.

A. Yes. 97 per cent of his did not and 94 per cent of those in the literature did not, but those are normal people. I stress that, that they are normal babies; they are not babies with heart disease, and there may well be a difference.

Q. Once again, with respect to Baby Miller, Dr. Bain, she was scheduled for surgery. She died, you will recall, on March 21st. Surgery was scheduled for March 29th, a full week away.

A. Yes. I don't think I have that written in my report.

Q. I think you will find it on page 9 of the chart, doctor.



1

G6

2

A. I will accept that.

3

Q. It is stated she was

4

coming in for surgery. The date may not be there

5

but I will find the reference for you.

6

A. Well, I don't think --

7

Q. Again, may I take it that

8

suggests that the expectation was, or at least the
hope was, that she would survive to get to surgery?

9

A. Yes, that is certainly so.

10

I don't know whether there was anything further that

11

they wanted to take it -- I don't know if there was

12

anything else -- she had had those convulsions and

13

had been transferred from Kitchener, I believe, on a

14

kind of emergency basis, and she had had a couple of

15

convulsions and they wondered about sepsis, so whether
they were wanting time to sort all that out before

16

they plunged in -- but, nevertheless, they did not

17

consider it urgent or emergent.

18

Q. It certainly does not

19

suggest that they considered her to be at imminent

20

risk of death as of the 21st of March.

21

A. There are two sides to that

22

story. Sometimes, if you think that somebody is at

23

imminent risk of death, you don't proceed until you

24

stabilize them; whereas, on the other side, if it is

25



G7

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

something that you know the operation will correct, then you will take those additional chances. If there are other things perhaps, like convulsions, that are contributing, you might want to step back and look.

I think what you are saying is reasonable, yes.

Q. Upon reviewing the chart, I take it you observed that surgery had been scheduled for this child?

A. You tell me that, and I accept it.

Q. In that sense, is it fair to infer that her death, when it occurred, had a measure of unexpectedness about it?

A. I think that I will accept that, Mr. Lamek, yes.

Q. Dr. Bain, do you have an opinion, in the light of all of the evidence, now we are plugging that dig. information back into this thing, do you have an opinion, in the light of all of the evidence about this child, as to the probable cause of her death, and I am asking you now to speak, if you could, as of November 1983?

A. I have difficulties in giving you a definite direct answer on that because,



G8

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

again, I go a little further along to the point of the autopsy. There was heart failure and there was ascites and liver congestion, and those were other things. Then I have the questions to ask; so I have to keep myself, try to keep myself honest. What I said back when I put this report in and what I have steadfastly maintained since that time, the next step had to be for those clinical pharmacologists and epidemiologists to come in with additional evidence before I would alter my view, which was down near that "don't know" stage.

I have a little trouble saying that until all the evidence is in. I would prefer to -- I am not trying to dodge the issue in any way, shape or form, but I think the next step for me are the dig. data. Can someone say this is why the baby died. So, I'm afraid I have to hedge on that one because, in this baby, something was going wrong; she had had convulsions, she had had a high fever over in Kitchener and her heart was two and a half times normal size at autopsy.

Q. Dr. Bain, I understand the dilemma entirely. If I understand you correctly, what you are telling me is that, beyond any question, death is consistent with her clinical condition?



Bain
dr.ex. (Lamek)

G9

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

A. Correct.

Q. What you cannot tell me
is whether her clinical condition caused her death?

A. That is right, and I think
that is, again, why I pointed out in my conclusions,
at the beginning when I specifically pointed to those
cases, I have an open mind, and I have an open mind
as to whether it is accident or laboratory mis-
interpretation or worse.

MR. LAMEK: Mr. Commissioner, my
timing is impeccable again! I am about to move to
another child.

THE COMMISSIONER: All right. We
will take twenty minutes.

--- recess.



BB/ak

1

2

---Upon resuming.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

MR. STRATHY: Mr. Commissioner, I'm

sorry, but before my friend begins I wonder if I might raise really three discreet points that all go to the same issue in my submission.

The first is that I am a little concerned, and I think some of the other counsel share this concern, that when Mr. Lamek has put the evidence of other witnesses to the Doctor, to Dr. Bain in at least one case, his recollection of the evidence may not have been complete and it may have created a misconception in the Doctor's mind and perhaps in your own mind as to what was said.

I am referring specifically to Mr. Lamek's suggestion just before we broke that Dr. Rowe's evidence had been that Allana Miller was one of seven children whose death was likely to have been due to digoxin intoxication and he summarized the evidence in that fashion.

Mr. Commissioner, I have got Dr. Rowe's evidence, Volume 18, here. It is my recollection that Dr. Rowe did not say that Miller or any of the other seven, with the exception of Cook, were likely to have died due to digoxin intoxication.



H2

1

2

3

Dr. Rowe said:

4

"...that Cook unquestionably is one
that I think that had happened."

5

6

And then he said:

7

"I think it is possible that a number
of others that where the evidence,
and I use that knowing that I am not
an expert in that area, it seems to
me from the information that I have,
at least subject to further discussion
and debate by people who are experts
in their fields, I would put about
six others in that category."

8

9

10

11

12

13

14

15

It is clear that the category that
he was talking about is the category of possibles,
not the category of likelys.

16

17

18

MR. LAMEK: Would my friend be
good enough to read the question to which that is
the answer?

19

20

MR. STRATHY: Yes.

21

"Q. Doctor, of all the 36 deaths
that we have reviewed together over
the past three weeks, and I know
that you have said that after March,

22

23

24

25



1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

"1981, you had to consider all of those deaths as possibly having been caused by digoxin intoxication. Let me ask you, of the 36, which do you now regard as most likely to have been caused by digoxin intoxication."

And then in his answer he says "Cook unquestionably" and then he says "I think it is possible that a number of others...". So, I don't think it is really fair to say that the Doctor considered the others to be likelys, I think it is fair to say he thought them possibles.

THE COMMISSIONER: Well, I think he thought they were all possible. He thought they were all possible but these were more possible than the others.

MR. STRATHY: That Cook was more possible.

THE COMMISSIONER: No, no, no.

MR. LAMEK: Cook was unquestionable.

THE COMMISSIONER: Cook was very possible. The others were more possible. If you want to do it that way. We are really discussing semantics at the moment.

MR. STRATHY: Well, with respect,



1

2

Mr. Commissioner, I think if Mr. Lamek wants to put the evidence to the witness and summarize it he shouldn't say it is likely.

4

5

THE COMMISSIONER: Well, all right.

6

7

MR. STRATHY: I just have a concern that he is putting something to the Doctor that is not reflecting the evidence.

8

9

THE COMMISSIONER: Yes, all right.

10

MR. STRATHY: That is my first concern.

11

THE COMMISSIONER: Okay.

12

13

14

15

16

17

18

19

20

21

22

MR. STRATHY: My second concern is that it seems to me we are very fortunate to have Dr. Bain here to give us his evidence as a Doctor of long experience who has reviewed these charts and who can give us an opinion. I think this is the stage where it would be only fair to hear the evidence from the doctor and not have it led by Mr. Lamek. I have been concerned that some of the questions he has been putting, Mr. Lamek has been putting a proposition to the witness and asking him to agree or disagree. I think it would be far more helpful to the Commission...

23

24

25

THE COMMISSIONER: I would be very much surprised if Dr. Bain could be led in an answer.



H5

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

I would be surprised, in particular, to be led by Mr. Lamek. I don't show any disrespect to him, I don't think it is possible. However, I understand your point. Part of the leading is part of the abuse that counsel, Commission Counsel have been getting from the Commissioner who wants to have this Commission over, as I say, before the turn of the next century. That is one of the problems that we are faced with.

I don't think there has been any impropriety so far. You obviously do.

MR. STRATHY: I think the greater concern, Mr. Commissioner, is to make sure that we get the witness' evidence.

THE COMMISSIONER: Yes.

MR. STRATHY: And Mr. Lamek's idea of what it is, and I am not suggesting ---

THE COMMISSIONER: With other witnesses I would be more concerned than I am with this one because Dr. Bain clearly does consider the import of everything that Mr. Lamek says before he answers it. Now, if you think that he hasn't and there is a problem, of course, you have your opportunity.

MR. STRATHY: I will raise that



H6
1
2 as we go along.

3 THE COMMISSIONER: Yes.

4 MR. STRATHY: Now, the third point,
5 Mr. Commissioner, goes I suppose as a general point
6 and maybe this is not the time to raise it but I
7 go back, looking in the transcripts, actually,
8 going right back to the first day when Mr. Lamek
9 outlined what he conceived to be his obligations
10 as Commission Counsel.

11 He is talking in that context, this
12 is at page 25 of Volume 1 about what he conceives
13 to be his obligation and he says:

14 "...to the best of my ability,

15 Mr. Commissioner, have attempted and
16 will continue to attempt to keep an
17 open mind on that subject."

18 This is the subject of digoxin
19 poisoning.

20 "Certainly I perceive it to be . my
21 duty to bring before you all relevant
22 evidence, no matter whether it supports
23 or challenges the view that some or
24 all of the allegedly suspicious deaths
25 were digoxin related."

As I understood Mr. Lamek's position



H7

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

at the time, and certainly it is my conception of what Commission Counsel's obligation is, is to bring all of the relevant evidence before the Commission whether it supports one interpretation or another.

THE COMMISSIONER: That's right.

MR. STRATHY: And I am concerned, in light of the way some of the questions are being put and in fact in light of some of the way the evidence has been introduced that perhaps that is not ---

THE COMMISSIONER: On the first part there is no question that he is bringing all of the evidence and, as you said, there might be some complaints that he might be bringing too much. But he is certainly bringing all the evidence that is perhaps of interest and I trust he will be bringing all of the evidence that is of any interest to any others. But it is his obligation not only to bring the evidence but to probe it as well. He must do that because, remember, all Commissions don't have the luxury that this one has with 20 lawyers sitting around who will cover everything and somebody is bound to be opposed to the views of this particular witness.

But Commission Counsel must probe the



1

2

evidence, therefore, they must not be limited to
examination.

3

4

MR. STRATHY: I don't dispute that
for a minute, Mr. Commissioner, but to be specific
what concerns me is, for example, we have a witness
like Dr. Spielberg.

5

6

7

THE COMMISSIONER: Yes.

8

9

MR. STRATHY: Who had a, if you
like to call it, a theory or a view.

10

THE COMMISSIONER: Yes.

11

12

MR. STRATHY: That the digoxin
administration could have been accidental.

13

THE COMMISSIONER: Yes.

14

15

MR. STRATHY: That didn't come to
us through Commission Counsel, it came to us through
the Hospital. None of the rest of us ---

16

17

THE COMMISSIONER: I'm sorry, it
didn't come through --- ?

18

19

20

21

22

MR. STRATHY: That evidence was not
led in the examination in chief of the witness by
Mr. Lamek, it came out through counsel for the
Hospital and only as a result of counsel for the
Hospital.

23

24

25

Now, the rest of us are at a
disability, we don't know the evidence that is



H9

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

coming, Mr. Lamek does and it just seems to me, with respect to any witness where there is an explanation which may run counter to the sinister theory it should be brought out through that witness and it is Mr. Lamek's obligation to bring it out where he knows about it and clearly in that case it was known. There are other examples as well but that is the most recent one.

THE COMMISSIONER: Well, if it is going to be an indictment I suppose you had better give all of the examples.

MR. STRATHY: Well, I don't want to make it an indictment. All I am saying is that it does seem to me that -- I know Mr. Lamek is as anxious as all of us to get this over with and I know that he is trying to be helpful when for example he puts a proposition to the witness but I don't think with respect it does any service to the Commission to (a) have the witness simply say yes or no to Mr. Lamek's proposition; but more importantly for the witness not to have evidence brought out in chief that may explain or may even complicate this entire proceeding.

So, those are my concerns and I know they are shared by others.



1

2

3

THE COMMISSIONER: Well, Mr. Lamek,
I am not requiring you to answer that but if you
want to answer it you may.

5

6

7

8

9

10

11

MR. LAMEK: Mr. Commissioner, I
will address only one thing. If my friend
Mr. Strathy was unaware at the end of the first
day of my examination of Dr. Spielberg of what
Dr. Spielberg's explanation of all these things
possibly could have been, I think he was the only
person in the room who was labouring under that
cloud.

12

13

14

It was perfectly plain to me what
his view was and I conceive my role as being
to test it as well as to have him say it.

15

16

17

MR. BROWN: Well, Mr. Commissioner,
if I could perhaps raise this matter at this time
since Mr. Strathy has made a few submissions.

18

19

20

21

22

23

24

25

Dr. Spielberg did put before you as
one possibility medication errors and he did give
evidence on the frequency of these errors. By chance
during his testimony but after my turn had passed
I was reviewing a bundle which Commission Counsel
had kindly provided to us constituting what was
known as the communication books kept by the nurses
on the wards.



H11

1
2
3 Now, I understand that those books
4 have not yet been made an exhibit in this proceeding.
5 There are however two references, detailed references
6 in those books to the occurrence of medication errors
7 with digoxin in October and November of 1980 with
8 particulars and there is also reference to difficul-
9 ties in the medication cabinet on Ward 4A in May of
10 1981 necessitating a change in the lock and the keys
11 of that.

12
13 There is a large volume of evidence
14 that I am sure is in the hands of Commission Counsel
15 but I could perhaps suggest that those two matters
16 be looked into and in view of medication error and
17 the difficulties of handling drugs as being a
18 possible explanation, that those two incidents be
19 pursued and perhaps Commission Counsel could later
20 lead evidence on that in that respect.

21
22 THE COMMISSIONER: Well, I don't
23 want to deal with that problem at this time.
24 However, you have heard what he has said.

25
MR. LAMEK: Yes, I hear that,
Mr. Commissioner, and it had not gone unnoticed that
there were those references in the communications
book. I had referred to one of them at an earlier
stage of the evidence but I cannot now for the life



1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

of me remember when it was. It seems to me the appropriate time to talk about that kind of thing is when we've got the nurses in the box because they are the people who are writing in the communications books about those things.

THE COMMISSIONER: Yes, that might well be appropriate. Well, I don't want to spend any more time, Mr. Strathy, you have made your views apparent. I do not in any way accept them or accede to your argument. Nevertheless, as Voltaire and others have said before me you have a perfect right to say it and a perfect right to say it again and again and again until I finally do agree with you.

MR. STRATHY: I won't try and increase this force by repeating it but I will object if Mr. Lamek leads the witness in areas where I think we should more appropriately ---

THE COMMISSIONER: Well, if he leads it is always a privilege of any counsel if anyone, anyone misstates the evidence. When I say misstate I don't mean deliberately. But whether he does deliberately or accidentally or anything else it is always your right to stand up and say that is not what he said. But I really, I certainly am not going to ask Commission Counsel or any other



1
2 counsel at this late date to give up leading
3 questions because if we don't have leading questions
4 we will never get finished and, besides, we have no -
5 I won't say we have no rules of evidence but we
6 certainly have no strict rules of evidence in the
7 court sense.

8 MR. STRATHY: Well, I don't want to
9 belabour the point, but it does seem to me that a
10 great deal of injustice can be done by leading
11 questions.

12 THE COMMISSIONER: But I can't
13 stop you from leading questions. The only way that
14 you can be stopped is if you misstate something but
15 you can lead this witness in any way you like. Now,
16 it seems a little unfair to say that Commission
17 Counsel can't lead a witness if every other counsel can.

18 MR. STRATHY: Well, Mr. Lamek has
19 spent time with the witness I understand, he knows
20 where the witness is going, he knows what the witness'
21 views are and I don't think it imposes an unfair
22 obligation to him to ask that he not lead.

23 THE COMMISSIONER: Well, I am not
24 going to make the ruling. I certainly will enter-
25 tain any objection that you have at any time.
Remember that each witness from the Hospital is



H14

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

examined and cross-examined not only by Mr. Lamek but by his own counsel. The chances of any real injustice by the way of leading that witness is pretty slim and, on top of that, remember, we have been favoured by some very intelligent, very knowledgeable witnesses who are not likely to be lead.

MR. STRATHY: No, I understand you.

THE COMMISSIONER: So, the situation may be more serious when the witnesses are less knowledgeable, less able to defend themselves and, under those circumstances there might be different rules. All right.

MR. HUNT: Just one comment, Mr. Commissioner.

THE COMMISSIONER: Yes.

MR. HUNT: Mr. Strathy has raised the allegation here that with respect to Dr. Spielberg Commission Counsel did not deal with the question of drug administration error and left the very clear statement that that came through counsel for the Hospital. The only thing I can take from that is the suggestion that counsel for the Commission was trying to subvert that evidence in interest of putting forward their own position.



H15

1
2
3 Well, firstly, Mr. Strathy is wrong,
4 that was led by Mr. Lamek, it is in Volume 54,
5 beginning at page 2156 at line 2, it is in direct
6 examination of Dr. Spielberg, and it begins and then
7 I will go on to phrase another question:

8 "Now, the question, then, comes down
9 to how that digoxin got there. We
10 have no corroborating evidence that
11 helps us one way or the other to
12 answer the question.

13 The two possibilities are somebody
14 intentionally gave this baby an over-
15 dose of digoxin. That has to be
16 accepted as a possibility. The other
17 possibility, as we suggested before,
18 is that this baby received an
19 inadvertent dose of digoxin."

20 And then he goes on for pages to deal with that.

21 THE COMMISSIONER: Yes.

22 MR. HUNT: In my submission, that
23 suggestion Mr. Strathy has left is most unfair
24 and ought to be retracted by him.
25



Bain, dr.ex.
(Lamek)

I
DM/cr

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

MR. STRATHY: This is very dramatic, Mr. Commissioner. I am not saying the question wasn't brought up in the examination in chief, but the detailed development of the witness' evidence was left to the Hospital and it is clear that the witness had a lot to say, a great deal to say about medication errors. So I am just saying that Commission Counsel in my respectful submission did not bring out the witness' full evidence in that particular area.

MR. HUNT: Nobody stopped Dr. Spielberg from saying anything, no matter how hard they tried.

MR. STRATHY: That is absolutely so, and if that is the case why wasn't it led in chief?

MR. HUNT: It was led in chief and my friend refuses to acknowledge that he was wrong. The easiest thing to do is acknowledge that he was wrong and withdraw the remark.

THE COMMISSIONER: I am not going to ask him to withdraw it, that is parliamentary conduct. I expect everybody to say everything and never withdraw anything and that sometimes helps and sometimes it doesn't. All right, now can we proceed. Mr. Lamek, will you continue leading the witness.



1

2

MR. LAMEK: Thank you, sir.

3

4

Q. Dr. Bain, I take it you will continue to be as careful as you were before you accept any suggestion that I put to you?

5

6

A. I will do my best.

7

8

9

10

11

Q. Yes, I know you will. Can we go next please to baby Kristin Inwood. Your review of that child begins on page 19 of your report. At page 45 there is a summary of the digoxin data concerning the child and a copy of the Hospital record should you require it is beside you there, Doctor.

12

13

14

A. That is fine, I have just stuck other papers in here so my pages don't number correctly. All right, thank you, what page was the -- I have a few little markers here.

15

16

Q. The digoxin data is on page 45.

17

18

A. Thank you.

19

20

21

22

23

24

25

Q. Now, Dr. Bain, we know from what is set out on page 45 of your report that as of the end of January, 1982 you were aware that a sample of the liquid which was thought to be serum, which was some blood drawn at the autopsy of Kristin Wood, had been sent in for examination and was discovered some time later, some months later, and sent to the



1

2

Centre of Forensic Sciences for digoxin assay, you
were aware of that?

3

4

A. I was.

5

6

Q. You were aware that the
dig. level measured in that sample was 491 nanograms
per millilitre because you so record that on page
45?

7

8

A. Yes.

9

10

11

12

Q. And you were also aware,
it appears from page 45, that whatever they may mean,
substantial concentrations of digoxin were measured
in the fixed heart tissue of this baby?

13

A. That is correct, yes.

14

15

16

17

18

19

Q. I hope I have correctly
summarized this, the evidence is to be found at
Volume 55, pages 2271-2274. If I tell you, Dr. Bain,
that Dr. Spielberg has said here that he has reservations
about the recorded level of 491 nanograms because of
the dubious history of the sample in which it was
recorded, and that is understandable.

20

21

22

23

24

25

Fairly I think it may be said that
many of the grounds upon which he was suspicious of
the sample were largely resolved in favour of the
sample during the course of his evidence. It appeared
the sample probably was serum and not blood as he had



1
2 suspected, and had probably, although this can't be
3 certain, drawn from the inferior vena cava not from
4 the chambers of the heart as he had thought it might
5 have been. Fairly his reservations were not completely
6 answered. So what he said ---

7 A. It was my understanding
8 that somewhere along the line that it had been drawn
9 from the sagittal sinus which is up here (indicating).

10 Q. Yes. The sample we know,
11 Dr. Bain, was drawn by Dr. Taylor, and his evidence
12 here has been that his usual practice on drawing this
13 sample is to draw it from the inferior vena cava.
14 It is an inference that he followed his normal practice.

15 A. I don't know where that
16 other came from, but that is all right.

17 Q. Yes.

18 A. Except the sagittal sinus
19 is around the choroid plexus and that is where you
20 get very, very high levels of digoxin according to
21 Dr. Kauffman.

22 Q. The precise site is not
23 firmly established.

24 A. Correct.

25 Q. But Dr. Spielberg also said,



1
2 and this is at page 2275 of Volume 55, that if the
3 number was a real number then he had to consider the
4 possibility of the administration, accidental or
5 intentional, of an unprescribed dose of digoxin to
6 the child. It seems to me that would be a perfectly
7 reasonable thing for him to say if it is a real
8 number.

9 Now, with respect to your review,
10 Dr. Bain, at page 19, the end of the summary, the
11 final sentence of your summary is:

12 "The very high 34.5 level of blood
13 calcium requires further study."

14 Do you know whether any further study
15 was done of that level?

16 A. I don't believe so, but
17 that would be in the Atlanta Report As I understand
18 it, no one seems to have paid any attention to calcium,
19 that sort of level of calcium can kill, it can kill
20 you, but it can also do things to dig. I mean 10
21 is the upper limit of normal and it has a very narrow
22 range of normal so maybe $9\frac{1}{2}$ to a little over about
23 $10\frac{1}{2}$.

24 Q. Yes.

25 A. That is an extremely high
level, and it was probably associated with the



6 1
2 2 resuscitation because that one of the standard things
3 3 that is used.

4 4 Q. Calcium is commonly given
5 5 in resuscitation efforts?

6 6 A. Yes.

7 7 Q. Might the administration of
8 8 calcium during resuscitation effort count for that
9 9 elevated level?

10 10 A. My understanding is yes,
11 11 but that is a question I would like posed to the
12 12 experts.

13 13 Q. Again I should tell you
14 14 that is something Dr. Spielberg said could be the
15 15 explanation for elevated calcium which occurred not
16 16 only in this child but a couple of others I believe?

17 17 A. Yes.

18 18 Q. On page 20 of your report,
19 19 it is noted in the middle of the page, the final
20 20 sentence of the paragraph:

21 21 "Some time during the arrest (?) 0245
22 22 hours arterial blood showed a sodium
23 23 148, potassium 7.3, chlorides 77,
24 24 calcium 34.5."

25 25 And then an unhemolyzed specimen?

 A. Yes.



1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

Q. Now on the copy that we have, Doctor, the potassium level and the calcium level are underlined, are those your underlinings?

A. Yes they are underlined in this one.

Q. And I take it the potassium 7.3 is also an elevated potassium level?

A. It is, yes.

Q. Did you attach any significance to that level in blood in this child?

A. I certainly wouldn't be underlining it unless I did.

Q. Can you tell me what significance you attached?

A. The significance is standing alone levels of potassium are capable of fairly, we will get on to this later maybe, but for example in the kidney unit in the dialysis unit at about a level of 5.5 they consider dialysing a patient. Most text books will tell you that when you get to a level of 6.5 that there is a potential medical emergency there. There are a lot of things that can upset it, even slight hemolysis because there is such an amount of it in the red cells that even if one per cent gets out it can make a 50 per cent change in serum, but this



1
2 was said not to have been hemolyzed. So, yes, I
3 raised the question of both potassium and calcium
4 contributing to the arrest of this child.

5 Q. What are the symptoms of
6 calcium intoxication?

7 A. I can't answer that, other
8 than, I mean normally when we are dealing with patients
9 who have, their condition is called hyperkalemia, and
10 it is a little more chronic situation; on . patients
11 who have rickets or unusual forms of vitamin D upset,
12 when they are being treated with potassium - I am
13 sorry, calcium, the levels get 11, 12, 13 and it very
14 often starts precipitating out in various parts of the
15 body, this is a slightly more chronic situation.

16 Now, on the other hand, calcium as it
17 affects the electrical part of the heart, I think you
18 are going to have to ask those - I knew it last week,
19 I can get a reference and bring it back to you this
20 afternoon as to what it does; but it certainly - both
21 potassium and potassium magnesium, potassium magnesium
22 and calcium all interfere with that binding process
23 we heard about of digoxin and all per se are capable
24 of causing arrhythmias and even to the point of
25 stopping the heart.

26 Q. Certainly I understand on the



1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

basis of the evidence we have heard that that can be
a symptom of hyperkalemia and arrhythmias?

A. Yes.

Q. We didn't mention it in the
context of Allana Miller, Dr. Bain, but I refer you
back to page 26 of your report and there is a reference
there only in the final line to post mortem blood?

A. That's right.

Q. Post mortem blood a potassium
level of 9?

A. It could be a million.

Q. It could be a million?

A. Once you die you start to
hemolyze and it is of no value.

Q. But the significance of the
Inwood level is it is taken apparently during
resuscitation?

A. Yes, that is the best I could
find out. I had a question mark as you can see that
said: "Some time during the arrest (?) 245".

Q. Yes.

A. And that is the best I could
get from the chart.

Q. Dr. Bain, I have a recollection
somewhere, and for the life of me I can't recall where,



1
2 is elevated serum potassium known to accompany
3 elevated digoxin concentrations?

4 A. Yes, it is and that will
5 probably become a key point later on. I had asked
6 Dr. Spielberg some time ago with reference to another
7 case in the Hospital might the alternative not be
8 true, that high potassium in a patient on dig. would
put the dig. level up.

9 Q. Yes.

10 A. And his answer is, yes.
11 You may recall in the meetings of the past few days
12 that was substantiated that potassium does in effect
13 interfere with digoxin binding, and if it interferes
14 with digoxin binding then digoxin is going to back
15 up into the blood and you are going to get a high
level, so it is both sites.

16 Q. In other words we may find
17 an elevated potassium at the same time as we find
18 elevated digoxin?

19 A. Yes, and one won't know ---

20 Q. And who knows which is the
21 egg and which is the chicken?

22 A. Yes. It becomes very
23 important because both can kill, and one may be
24 critical as I think some of our - even Dr. Costigan
25



1
2 was critical of himself of trying to knock the
3 potassium down in a particular patient, but on the
4 other hand the literature is full of the fact that
5 if the potassium level gets high enough you have got
6 to do something about it or the patient will die.

7 THE COMMISSIONER: I had somehow got
8 the opposite impression that it is the potassium, the
9 low level of potassium.

10 THE WITNESS: Both will kill you.

11 THE COMMISSIONER: I understand that,
12 but I thought that a low level, Dr. Costigan's worry
13 was that by reducing the level of potassium he was
14 raising the level of digoxin.

15 THE WITNESS: That he was allowing more
16 binding at the binding sites, because it is apparently
17 not so much the level in the blood that is important
18 it is the level that is allowed to be bound.

19
20 - - - -
21
22
23
24
25



2nov83
J
DPra

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

So, if potassium is not soaking up those binding sites, the dig. does. This is what he wondered about. He had a high level and that potassium can be used in the treatment of digoxin, high digoxin, for that particular reason, to try to get to the binding sites and set the digoxin free.

THE COMMISSIONER: If you increase the potassium, you will then detach, if that is the right word, some of the digoxin that is bound to various sites throughout the body?

THE WITNESS: Yes. But it will put the level up in the blood. That is where you get caught.

MR. LAMEK: Q. I suppose, doctor, what is not precisely known is whether an administration of digoxin may have precisely that effect upon bound potassium, causing it to unbind and go into serum?

A. I think that is known, at least that is postulated. But the other side of the coin --

Q. The other side of the scale.

A. It was the other side, the one about the possibility of potassium putting the dig. level up in a patient on dig., that has not been



J2

1

2

addressed, but was alluded to in the last day or so.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

Q. As far as the point the
Commissioner raised is concerned, as I understand it,
a low or depressed potassium serum level may aggravate
the effect of digoxin.

A. That is correct, because
it lets the digoxin bind to the bad sites.

Q. Recognizing the question
or the concern that you had about the elevated
potassium level in the sample taken from Kristin
Inwood, did you draw any inference or come to any
conclusion based upon that observation?

A. I don't think, in that,
in isolation, the questions I had - and I will go
back to my conclusions again and the fact that, until
those specialists tell me what it all means, I am not
going to stick my neck out. I have said that they
could have died of what they had but there is the
other possibility of the digoxin.

My questions raised, and when I
raised them back on this particular paper, I was
concerned about the specimen that was found a year
later in, I believe, Dr. Middleton's refrigerator. I
was concerned that it had been heated and that that
could release digoxin from cells. My understanding



J3

1

2

was that it was something that had red cells in it.

3

You say something may have gone along that particular

4

line. During the evidence, it suggested otherwise.

5

So, that was my concern, and I

6

suppose, again, we know that fixed tissue levels

7

don't mean anything but the levels that were there

8

of 320, 230, Dr. Hastreiter, in a recent paper - and

9

I don't know whether that has been entered in

10

evidence or not - talks of levels, I believe of

acceptable levels up to 450, in tissue.

11

Q. In fixed tissue?

12

A. I believe it is fixed

13

tissue but that point had not registered, and I don't

14

know whether you have Dr. Hastreiter's recent paper.

15

Q. No, but he will be here

shortly, though.

16

A. You might ask him that

17

question.

18

Q. We shall indeed.

19

A. Those were the concerns I

20

had about Inwood.

21

Q. On page 21 of your report,

22

Dr. Bain, you properly record, as I remember the

23

autopsy report, that the pathologist did not find a

24

clear cause of death for this child.

25



J4

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

Were you, on the basis of the clinical record that you have read, putting aside the digoxin again for the moment, were you able to form a judgment as to the probable cause of this child's death?

A. I don't know what Dr. Phillips said but I don't know when a pathologist can ever tell you a cause of death or that that necessarily was the cause of death. I should not say "ever", because, if you are doing a post mortem examination and someone has had a ruptured spleen and all the blood is in the abdominal cavity, you know full well that the ruptured spleen did it.

On the other hand, you have people walking around who are medical miracles and have so much wrong that, if you looked at it on a post mortem, you would say, how could they have walked. So, he cannot look at it and say -- when I look at what he said, he said that there was a coarctation of the aorta, and people have gone through that; that there was congestive heart failure and the heart was twice normal size and weight. So, the baby was in failure and, in addition, apparently around the process of birth, it had taken a big gulp of the amniotic fluid and the lungs were full of amniotic fluid cells.



J5

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

Although that appeared to be resolving, there is no question that that would interfere with oxygenation. So, both the heart failure plus the lung situation -- let me see, then there were areas of focal myocardial necrosis, and all that means is that areas of myocardium had died and even one of the muscles that holds the valve up, the papillary muscle was involved in that process.

So, there were things there that meant that this baby was at high risk of dying.

Q. I don't think that is the question, doctor. I think the reference that you had in mind is at page 21 of the chart of Kristin Inwood, where, in the penultimate paragraph of the final autopsy report, the pathologist reports:

"Several factors may have contributed to the death of this infant. However, no clear cause is defined." That is what you are talking about?

A. That is what I'm talking about when I say there rarely is, that he can say to me, other than in something like a great vessel rupture --

MR. ROLAND: Mr. Commissioner, to be fair to Mr. Lamek, he was not here to hear this



J6

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

evidence, but you will recall I asked Dr. Phillips about that and he said it would read better if it read:

"However, no clear single cause is defined."

MR. LAMEK: Thank you.

Q. While we have the chart there, Dr. Bain, could we look at page 63, please. I hope yours is more clearly paginated than mine. Let me tell you what it is and then --

A. Yes.

Q. It is the final page of the progress notes of the chart.

A. Dated 13-3.

Q. 13-3-81, that is right. Nurse Harwood-Jones' note.

A. Yes.

Q. Again, I am referring here to the electrical pattern at the time of death. She appears to record that, at 0200 hours, the monitor strip showed abnormalities. The team leader was notified and a resident was called. "Lasix, 3 mg. given IV by resident. Tachycardia 200 beats. Baby very irritable. At 2:30, Code 25 was called."

What was found when the arrest team



J7

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

arrived is set out, I believe, on the previous page and, half-way down the page, is a note of Dr. Mount-
steven, Code 25 is called and he appears to record as his first observation, bradycardia.

What we seem to have, doctor, is a pattern of tachycardia reverting to bradycardia and progressing to death.

Again, I ask you, do you regard that as an unusual pattern of dysrhythmias in the death of a child?

A. No, I do not. As I said, just to enlarge on that point, the electrical mode of dying is said to be just slowing down but, on the other hand, in that particular paper, some 35 per cent or 45 per cent showed sort of the adult pattern if they had congenital heart disease underlying it.

No, I don't. There are so many factors coming in when a patient is dying, I am not surprised at anything that happens and I think the reason we don't pick many of them up at times, and often don't pick them up at home or anything is that you are not monitoring. If one could monitor everybody dying, they might alter their views considerably.

Q. But it is a matter about



1

2

which you asked Dr. Rowe, as you record in the final
paragraph?

3

4

A. Yes, I did.

5

6

Q. In your review of this
child at page 21, when you say:

7

8

9

10

11

12

13

Dr. Rowe?

14

15

16

17

18

19

20

21

22

23

24

25

A. Yes, I did.

Q. What caused you to do that?

A. Because I just did not know

whether -- whether it was at a time, I don't know --
No -- I'm trying to remember the relationship of it
to the question of the heart slowing, that paper,
whether it was related, but it was obviously related
to something that was in my mind, that the usual
thing was to slow down.

Q. But, doctor, you say that
you were not surprised at that particular electrical



1

2

pattern. Why did you ask Dr. Rowe about it?

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

A. To further my knowledge more than anything else about things. Surprise is one thing and shock and -- but I think that when you are in a hospital where you see everything over the years, you see just about every exception to the rule. So, I do not know whether surprise is the proper word.

Q. And were there other children whose charts you reviewed and about whom you addressed questions to Dr. Rowe or other cardiologists, questions about the electrical mode of death?

A. I can't recall that exactly but when you ask me about convulsions and then I went back to Dr. Fowler's paper and found out about the arrhythmias, then I went through all of the charts and put down the ones who had speeded up arrhythmias and what have you.

Q. Yes.

A. And I do have that somewhere and, yes, there are just about every combination and permutation of something; fibrillation first and slowing, speeding fibrillation - I have that very handy here somewhere. I could give you the data, if



1
2 they are of any interest.

3 Q. I think, Dr. Rowe, in fact,
4 prepared a similar table of the electrical modes of
5 death of many of these children.

6 A. I think he did, yes.

7 Q. My only concern is this,
8 Dr. Bain, whether there was something about that
9 electrical pattern of tachycardia proceeding to brady-
10 cardia, which, upon an initial reading, struck you
11 as sufficiently unusual for you to want to ask Dr.
12 Rowe about it?

13 A. That must have been what
14 happened but, nevertheless, in subsequently looking
15 at it, and with more and more literature coming out,
16 I don't think -- I would not hang a lot on it. We
17 will come to that in some other patients later, too.

18 Q. You have told us, of course,
19 that Kristin Inwood was a child with serious clinical
20 problems.

21 A. Yes.

22 Q. And I take it, were it not
23 for the level of digoxin recorded, particularly in the
24 serum sample and perhaps in the tissue sample, you
25 would have no concern about saying that death was
entirely consistent with her clinical condition?



1

2

A. That was my feeling, yes.

3

Q. Do the available dig. data,

4

Dr. Bain, cause you any reservation about that
opinion?

5

6

A. These are ones that surely

7

must go to the experts because I don't know about that
specimen a year later in the fridge and that had been

8

heated. As I said, as far as the tissues are con-

9

cerned, and I think that Dr. Hastreiter has said that

10

up to 450 is acceptable, but we all know there is a

11

grey area. There is an area where somebody could die

12

at 200. It is all related to these relationships.

13

So, I don't know, but I am concerned.

14

There was another specimen that I

15

was trying to track down and have not been able to

16

track it completely on Inwood from Mr. Cimbura that

17

was less than 2. There seems to be a date on there of

18

the 12th of March, whereas the baby died on the 13th.

19

But I have not been able to track that specimen down.

20

I have asked everybody and they can't find it, and I

21

think it is a very important one. If it were taken

22

at post mortem or anything -- but no one has given me
a clear answer as to where it came from. It may have
come out --

23

Q. I think the understanding

24

25



1

2

here is that that was an ante mortem sample.

3

4

A. I would certainly like to
find that out, if it is.

5

6

7

8

9

10

11

Q. One final matter with
respect to Kristin Inwood, Dr. Bain. Accepting, of
course, everything you say about her serious clinical
condition, you were aware, upon reading the chart,
that this, too, was a child for whom surgery had been
scheduled, indeed, a few hours after the time of his
death. She was to go to the operating room that very
morning.

12

13

A. I don't remember that but,
if you tell me that...

14

15

Q. Again, I take it one might
reasonably infer that she was expected to reach
surgery?

16

17

18

19

20

21

22

23

24

25

A. If that -- yes, certainly.



K
BB/cr

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

Q. Yes. And to the extent that she did not, is it fair to characterize her death at least as to the timing of it as sooner than was hoped might happen?

A. I think that's fair or they wouldn't have booked that way, yes.

Q. Can we go then to Kevin Pacsai. Your report with respect to this child begins at page 27. The digoxin data is set out at page 48 of your report and the chart I think should be beside you if we need it.

A. Thank you.

Q. Now, having given you those numbers and the page numbers in your report, Dr. Bain, can I direct you to a third page and, in particular, page 37. Page 37 records the cardiac status and prognosis scorings that were done as I understand it by Drs. Rowe and Freedom at your request.

A. Yes.

Q. And the explanation of the numbers is to be found at page, and I will get it for you in a moment, page 32, in which, according to the scoring system used, cardiac status, which was ranked A, B, C or D, represented a total assessment



1

2

3

4

5

6

2

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

of etiologic anatomic and physiologic diagnoses and prognosis based on an assessment of the potential effects of optimal current medical and surgical therapies. How seriously sick is this child and what are his prospects, given the best care?

A. Yes.

Q. And on that basis is it fair to say that Kevin Pacsai received as encouraging a score as any of the children in this whole group?

A. On the basis of his heart, yes.

Q. Yes. But his cardiac status was characterized as being slightly compromised?

A. Yes.

Q. And his prognosis was good with therapy?

A. No problem with that.

Q. All right. And on those bases at least, Doctor, is it fair to say that Kevin Pacsai was not expected to die?

A. On the basis of the cardiac things, yes.

Q. All right.

A. But the cardiac things really don't enter into my - well, they entered into my



1

2

thinking but were dismissed.

3

4

Q. All right. Now, there
were other problems with this child of course.

5

6

Perhaps you would tell us what in your view were
the serious difficulties with which his death was
consistent?

7

8

9

10

11

12

13

14

A. All right. Maybe I should
go back a little bit because I said at the beginning
and I guess I have been saying for 50 years that
medicine is based on history and physical examination
and the laboratory comes along later and is a - I
won't say a poor second or third but as something that
you are guided to by the history and the physical
examination.

15

16

17

18

19

20

21

I think we should look at Kevin Pacsai
in total. I won't have my facts absolutely correct
but I would be glad to alter them a bit. He did well
for a couple of weeks, he had a good birth weight,
in fact, he was right up in the 90th percentile. I
don't know whether the good Lord planned on him
staying in there or not but nevertheless he was in
that. I have made some notes here, you don't mind
if I refer to them?

22

23

24

25

Q.

No, it would be very
helpful.



4

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

A. Yes. At 14 days of age he went to the emergency of Chedoke - McMaster. He wasn't feeding well. He was constipated. They made a little note that he was voiding well. I'm not sure why they made that little note, that starts to ring a little bell in my head when we come to the adrenal a later on because people who are not feeding and not eating usually don't void unless they can't hold their water. They sometimes can't because of the electra - or, at least, the endocrine upset.

He improved and then I believe on the 5th of March he came back, poor feeding again, vomiting and diarrhea then lethargy and then he became very unresponsive at home.

On the 6th of March his lethargy was worse, vomiting wasn't as bad, he wasn't feeding and he had increasing diarrhea and some blood streaks in his stool. He had laboured breathing and he was unresponsive. So, he was hitting the skids pretty hard.

In fact, when he got to the emergency at St. Joseph's he was pretty near dead. His temperature was subnormal. I guess that happens when you are going down. He was mottled, his initial heart rate was just 160. I don't know when they got treatment



Bain, dr.ex.
(Lamek)

3445

1
2 underway, whether it was immediately or not, but
3 nevertheless within an hour of getting there he
4 was even worse. He deteriorated still further and
5 at that time his pulse went up to 240. They put an
6 endotracheal tube in and started artificially
7 ventilating him and bagged him with that and with
8 oxygen.

5
8 Now, they did at some stage along
9 the line there they had done some blood tests and
10 those were the things that struck me because here
11 was a baby who had become desperately ill and the
12 combination of blood findings were a low sodium and
13 chloride and a high potassium. Not only that, he had
14 a high blood urea nitrogen, that is the kidney thing
15 and he also had a low blood sugar under 25 when the
16 level normally is 50 or so. Those things add up if
17 you take them in total to insufficiency of the
18 adrenal gland. I thought when I first read the
19 thing, you know, this will be a clear cut case because
20 I have seen that sort of thing happen time and time
21 again. When I checked with the pathologist, and I
22 have outlined it all here so I won't bore you, they
23 did not find a typical Addison's Disease which is
24 what President Kennedy had before and there is
25 treatment for it but that didn't keep him from getting



1
2 shot I guess. But nevertheless, there is that and
3 there is another form in childhood. I am not going
4 to go into them all.

5 There are a couple of transient forms
6 that do occur. One of them is in people who have had
7 their adrenal suppressed by cortisone, which is a
8 common thing these days, and then they get a stressful
9 situation even up to a year or two later and they
10 can be dead in a matter of hours but they are plugging
11 along quite all right before it.

12 There have been reports in the
13 paediatric literature, very few of transient adrenal
14 insufficiency because if it is transient they get
15 better and you can't, you don't have it. So, most
16 paediatricians, most endocrine paediatric endocrinologists
17 will think they have seen such a situation because they
18 have seen that combination of a desperately ill baby -
19 I should have mentioned he had no blood pressure
20 either. A shock baby with a high potassium and a
21 low sodium and chloride, a high BUN and a low blood
22 sugar and we have seen that and have treated it.

23 Well now, although that is what
24 I put in my report, one in medicine always puts a
25 differential diagnosis. If one looks at what
various people have said I am sure the admitting



1
2 resident at St. Joseph's put, and I know he put
3 septic shock. He thought it was due to infection
4 and he did the appropriate tests and that would
5 certainly be one thing one would have to think of
6 and treat, which he did adequately, he put the baby
7 on antibiotics at the time.

8 The second--but later on no bugs
9 grew. That does not necessarily rule it out because
10 we know with Legionnaires it took them months before
11 anybody got around to finding a bug; with AIDS, now,
12 I will bet you that it will turn out to be a bug that
13 we will find out how to identify how to grow down the
14 line but the evidence is not there yet.

15 So, infection was a very good
16 possibility. Another thing was paroxysmal molecular
17 tachycardia with Dr.Malcolmson and the people -
18 nearly everything we look at there is a test or
19 something that doesn't fit and his pulse rate when
20 he went was only 160.

21 It did go up to about 240 but if you
22 read the standard text books they say babies of this
23 age usually don't get in trouble with a level less
24 than about 300 and our own cardiologist made those
25 comments.

Sick sinus syndrome which Dr.Malcolmson



1
2 threw in later, I am not sure what exactly sick sinus
3 syndrome is but you do get speeding up and slowing down
4 and there is no - if a baby hasn't had an operation
5 it is a little hard to prove there is something
6 interferring with the sinus during surgery and the
7 only reports I have seen in the literature where you
8 can sort of prove it are with electra physiologic
studies and they were not done.

8
9 So, a kidney thing is another thing
10 in a newborn because the closer a person is to birth
11 the likelier that he may have something that he was
12 born with and a kidney thing can give you a funny
13 electrolyte picture and certainly will give you the
BUN.

14 There was a scar on his kidney at
15 post mortem, but heck, we can get by with one kidney,
16 so, that doesn't matter and then with treatment he
17 improved and his kidney function became normal.

18 So, all of those things I think were
19 ruled out.

20 Now, I don't care what he had at the
21 beginning. What I am saying about him at the
22 beginning is that he had a situation with collapse
23 and darn near dead still when he got to McMaster
24 Medical Centre. He was still nearly dead when Dr.
25



1
2 Malcolmson saw him over there and then he improved
3 rather quickly. He had a high BUN, he had shock, he
4 had a low blood sugar, he had a high potassium. Those
5 things to me mean that you have got to treat adrenal
6 insufficiency whether you prove a cause for it or not.

7 All right, what happened. His
8 potassium came down but you may notice that the day
9 he is coming over from McMaster it is up again, it
10 is up to 5.8 and then that night he has a situation
11 again of collapse, if you will, but with the potassiums
being extremely high again.

12 All I am saying are two things I guess
13 is that whatever he had at St. Joseph's he may well
14 have had again. The diagnosis that I have put as my
15 leading diagnosis I would still leave there. I
16 would consider all of those others, but as I said,
17 there is no proof for any of those others any more
18 than there is for mine because you can't prove or
disprove transient adrenal insufficiency.

19 Q. Right.

20 A. The concern I think I raised
21 before was that, and I think Dr. Hastreiter said
22 that the potassium was up because the dig. was up and
23 I would ask them to re-examine that and say could the
24 dig. have been up because the potassium was up.
25



1

2

Q. Yes.

3

A. And I have a case, this

4

case fortunately lived, and this is the one I told
you I spoke to Dr. Spielberg about and the levels in

5

that - I wrote it somewhere - I think went from 1.9

6

to 5.1 that we were able to document. So, the dig.

7

level at least doubled and almost tripled with the

8

potassium that went up. So, the reverse can be true.

9

So, when I come to Kevin Pacsai I

10

don't know what he had but I know he darn near died

11

at St. Joseph's and at McMaster and he did in fact die

12

at our place. The levels that he has of a dig. I

13

think was greater than 10, it would suggest that that

14

level of 10 is pretty close to the truth because the

15

post mortem level was 26 and they coincide pretty
well because most people say double the level at post

16

mortem. So, they are compatible. So, it would seem

17

that his level was around the 10 mark which I would

18

not say is not dangerous but nevertheless we have

19

certainly seen people not upset with it.

20

Q. Sure. Dr. Bain, did I

21

understand you to say that your initial impression of
adrenal insufficiency was based upon the totality of

22

the picture that presented?

23

A. Yes, the baby in shock.

24

25

10



11

1

2

Q. Yes, baby in shock,

3

A. With those electrolyte

4

pictures and a blood sugar too because true Addison's

5

Disease, that is the other - we don't see it, it is

6

awfully rare, I have only seen I guess two other - I

7

have seen other kinds of adrenal insufficiency in

8

children, I have only seen two with true Addison's
Disease, which is the common one in adults.

9

Q. Now, at page 83 of the chart,

10

Doctor.

11

A. 83?

12

Q. It may be easier to look in

13

our copy of this one.

14

A. Sure.

15

Q. Page 83 of the chart is one

16

of the reports from the biochemistry department on this

17

child. You will see that levels are reported in

18

samples submitted on the 11th of March and the 12th

19

of March there and they include sodium potassium,
chloride, glucose BUN and so on.

20

A. Yes.

21

Q. Are you able to tell me

22

whether, looking again at the totality of the bio-

23

chemistry picture, the extent that is disclosed by this

24

report, whether the same picture is presenting here as

25



1

2

the one on the basis of which you had the impression
of adrenal insufficiency?

3

4

A. They are perfectly normal.

5

The 143.9, 102 are normal but this baby has been on
intravenous and was given some sodium chloride and
such things and normally in the situation if we pin
down the diagnosis we are in a position to give
hormones but in the days before cortisone and the
other salt retaining hormones before they were avail-
able they didn't all die by any means because we
could replace the sodium chloride with an intravenous
and we could replace the glucose with an intravenous.

6

7

8

9

10

11

12

13

So, this baby was on an intravenous,
he was given sodium chloride by a push over in St.
Joseph's, he was also given some albumin. I am not
sure what the constant intravenous solution was that
he gave and his intravenous was still running when
he came. In fact, it was plugged when he came and
they restarted it.

14

15

16

17

18

19

So, all I am saying is that - the
other thing that one should know and if you read in
any standard text that if a person does get a so-
called Addisonian crisis or adrenal crisis it can be
from health to death even in older people in a matter
of hours.

20

21

22

23

24

25



1
2 So, all I am saying is he had - I
3 don't know what he had. My bottom line again is I
4 don't know because I can't prove it. I am saying that
5 it has to be looked at at least that what he had at
6 Sick Children's was similar to what he had before he
7 got any dig. or anything else at McMaster or at
8 St. Joseph's.
9
10
11 - - - -
12
13
14
15
16
17
18
19
20
21
22
23
24
25



L/DM/ak

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

Q. Believe me. Dr. Bain, I don't presume to challenge that view but I am trying to understand it.

A. Sure, that is fine.

Q. I am trying to understand it.

A. We have covered a lot of --

Q. Am I right in thinking first, looking again at page 83 of the chart that the report on the samples drawn the 12th of March, 1981 at 6:30 a.m. and 7:20 a.m., that is to say the two right hand columns, only display departures from normal levels with respect to potassium?

A. That is right.

Q. And we know that the 9 level was a hemolyzed sample and was really submitted by Costigan for electrolytes and came back 7.7. I guess what I am struggling to understand, Dr. Bain, is this: if at that stage the only level which is a departure from the normal is potassium, what is it that leads you to say that you consider it likely that he was experiencing at that stage, and this was within about an hour or so of his arrest...

A. Yes.

Q. ...at that stage what he had been experiencing when the blood pattern was completely



1

2

out of line in almost everything you sampled?

3

4

A. Sure. Well, first and foremost, you know if somebody has something and they come back in and they do it again, you have to be a little careful but you don't just dismiss it.

5

6

7

8

9

10

11

12

13

14

Secondly, my understanding and I will have to go back and look, but he said he had an intravenous running and the intravenous would be sodium and chloride. Therefore some balance is probably being maintained. I would suspect it may even have been sodium and chloride and glucose because that is our standard prepared solution at the Hospital is so-called two-thirds/one-third that we give those things.

15

Q. Yes.

16

17

18

19

20

21

22

A. But as I say, you know I can't none of the alternative diagnoses fit any better of what he had originally. I believe I understood Dr. Spielberg said something about pathophysiology, well that is saying the same thing, is that there is an enzyme defect or whatever that controls sodium potassium and chloride that is not functioning properly.

23

24

25

Q. Obviously I am missing something very fundamental in this discussion. What is



L3

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

the effect of adrenal insufficiency?

A. Well, usually the effect is two or three things with a typical Addisonian picture. You can die very suddenly from your blood sugar plummeting, or convulse.

Q. Yes.

A. You can die suddenly if the potassium grows too high. Those are the two things that usually kill you in acute adrenal insufficiency. As I say a stressful situation, or an infection of the things that very often trigger a crisis. So - does that answer your question?

Q. It does partly, yes, but I need to understand it a little more. I am going back now to the picture before he got to Sick Children's.

A. Yes.

Q. And it is essentially outlined on page 28 of the report.

A. I probably have it in my head there, yes.

Q. Yes. Is a low sodium indicative of adrenal insufficiency, that is just an added complication, is it?

A. No, usually the things happen



L4

1

2

at the same time.

3

Q. Yes.

4

A. That sodium and chloride

5

goes down and potassium goes up, and that is a

6

thing you don't find in diarrhea or vomiting because

7

everything goes, all of those should go down. So

8

the factor of them are down and one up? Now,

9

okay, what is going to be the effect on that of

10

having an intravenous with sodium and chloride

11

running. I think we are still in the dark ages of

12

medicine. Although the thing may not fit the

13

textbook picture of adrenal insufficiency we see

14

some that are on the fringe. In fact, Dr. John

15

Keith who is the Head of Cardiology made a statement

16

that stuck in my mind for years even about

17

cardiology cases where you think it is an exact

18

science with echoes and all of those things. He

19

would say at the end of every diagnosis, when you

20

come to it in a complex heart disease there is

21

going to be one piece of incontrovertible evidence

22

you are going to have throw out, because it won't

23

fit.

24

So all I am saying here is, here is

25

a patient who is desperately ill, who had the

picture of a low glucose, a high BUN and those



L5

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

other things, and a high potassium. He comes back in, he has another situation in which his potassium goes up. I have not been able to explain the potassium going up on the basis of the other differential diagnosis of sick sinus syndrome, paroxysmal auricular tachycardia; what was the other one, sepsis?

Q. Yes.

A. They can all happen, yes.

Q. Doctor, it is difficult for a layman to grapple with.

A. It is difficult for us to grapple with it.

Q. I understand.

A. Because there are times when the laboratory lets you down. You have to remember many of these things are done when a patient is moribund or darned sick. All I can say is that the features in both instances were, the worrisome thing is the hypertension.

Q. Okay, that is really what I was getting at. You know, I can't help to duplicate the feel that you develop over the decades of practising pediatrics and I don't purport to try. Do I understand you essentially to be saying that as far as the objective signs are concerned what led you to



L6

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

your favoured diagnosis here was (a) the history of
the child?

A. Yes.

Q. And (b) the elevated potassium
at the time ---

A. No (b) the physical examination
at the time because he was just about dead and
shocked and mottled and had no blood pressure.

Q. Yes, but that wasn't so at
the time immediately prior to his arrest?

A. I'm sorry, I am talking about
St. Joseph's.

Q. Yes, I am talking about that
history.

A. Okay.

Q. That was important before
coming to the diagnosis you did?

A. Yes.

Q. Second, the elevated potassium
at the time of his arrest, that is the troublesome
thing in the immediate pre-arrest picture.

A. We are talking at Sick Kids'
now?

Q. Yes.

A. Yes, okay.



1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

L7

Q. Is there anything else in the pre-arrest picture at Sick Children's that goes into your diagnosis, your preferred diagnosis of transient adrenal insufficiency?

A. Not that is outlined there, no. I don't think so, if I change my mind I will come back to you.

Q. Well, we will both think about it over lunch.

A. Yes.

Q. How about that, Doctor?

A. That will be fine.

THE COMMISSIONER: We start now, is that your suggestion?

MR. LAMEK: That was a hint, yes.

THE COMMISSIONER: Yes, all right, 2:30.

---Luncheon recess.



AA/DM/ak

1

2

---Upon resuming at 2:30 p.m.

3

THE COMMISSIONER: Yes, Mr. Lamek.

4

MR. LAMEK: Thank you, sir.

5

Q. Dr. Bain, we were talking about

6

Kevin Pacsai and ---

7

A. Mr. Lamek, could I correct

8

something? I am getting a little rocky in my old

9

age and electrolytes and things. As I look a little
more carefully at Pacsai and the non-hemolyzed

10

specimen there on page 81.

11

Q. Yes.

12

A. Where I said it was just the

13

elevated potassium, the sodium is beginning to come

14

down probably at that age - it is not very low, but

15

on the other hand probably at that age 140 would be

16

normal. So there is a little trend there; the

17

chlorides have not fallen- but I suppose things

18

are going to be a little related to what was getting
in the intravenous.

19

Q. Fine, thank you. The sodium

20

a touch on the low side; potassium is elevated;

21

chlorides are okay?

22

A. Yes.

23

Q. Glucose is all right?

24

A. Was there glucose there, I

25



AA2

1

2

didn't see it.

3

Q. Yes, 82 for glucose.

4

A. Was that right at that time,

5

if it is that, yes.

6

Q. Yes.

7

A. And the BUN is okay.

8

Q. As I understood you earlier,

9

Dr. Bain, you told me that the low sodium in the

10

earlier picture that had caused you concern was

11

part of the picture, but as I understood you not as

12

an essential part of the diagnosis that you made.

13

I thought the diagnosis really depended upon the

low glucose and the high potassium?

14

A. The other things usually go

15

with it, all three. Because it is a hormone that

16

puts sodium and chloride down and potassium up.

17

Q. Right.

18

A. Unless something else is

19

interfering; like the intravenous or something being

added.

20

Q. Again, when we broke for lunch,

21

I thought I understood you to say that the primary

22

indicator, if you will, shortly before the time of

23

this child's arrest was the elevated potassium.

24

You have told me now the sodium is a touch on the

25



AA3

1

2

low side, but I take it primarily we are still looking
at that elevated potassium?

4

A. It is the potassium that is

5

the worrisome thing, whatever the cause, yes.

6

Q. And you have referred in your

7

report at the foot of page 27 to the electrocardio-

8

gram tracing which you discovered in the chart showing

9

a tracing that is characteristic, as you say, of

10

potassium intoxication.

A. Did I say that?

11

Q. That is what you said at the

12

bottom of page 27.

13

A. I am just looking for that

14

page, or whether I said "in keeping with".

15

Q. You said "It is characteristic

16

of".

A. All right.

17

Q. Characteristic of potassium

18

intoxication. Doctor, do I understand you and it

19

is important that I try, that your preferred diagnosis

20

is one of what, a recurrence of the transient

21

adrenal insufficiency that you diagnosed on the

22

earlier occasion; and in particular marked by an

23

elevated potassium which may have resulted in

24

potassium intoxication of this child?

25



AA4

1

2

3

A. Well, they are one and the same thing.

4

Q. Yes.

5

6

7

8

9

10

11

12

13

14

15

16

A. So I guess what I am saying is that what I think he had here could well have been what he had before, and for a variety of reasons, although I would consider those other things and maybe others, I would have to leave that at the top of my list that he had adrenal insufficiency.

Then when I say that there is nothing in a pathological way to back that diagnosis up, as a pathologist, then all one is left with is that it is transient and these things have been talked about in the literature and they have happened before, and unless you die the pathologist doesn't get a chance.

17

Q. Yes.

18

19

20

21

A. But on the other hand - so, yes, that is what I am saying. Well, as I said in my conclusions, you know, on the other, that we were told there were toxic levels and therefore we must look at the other side of the coin.

22

23

24

25

Q. I appreciate that, and for the purposes of this discussion we are putting the digoxin levels on one side.



1

2

A. All right.

3

Q. And we are looking at your

4

diagnosis based upon the review of the chart other
than the digoxin part.

5

6

A. Yes.

7

Q. Again do I understand that

8

what we are really saying is, the troublesome thing
is the hyperkalemia and the likely cause of that in
light of this child's history is the adrenal
insufficiency problem.

10

11

A. Yes, I have put that where I

12

put it.

13

Q. Okay. Now, Dr. Costigan of

14

course who is beginning his career, and was at the
time.

15

16

A. Yes.

17

Q. Also asked the same question,

18

did he not, on the chart? You saw his notation:

19

"How do you account for this increase
in the potassium level?"

20

A. That is the question one has

21

to ask because potassium can kill you in short
order and he has to make a decision.

22

23

Q. He asked:

24

"How can you account for this increase

25

AA5



AA6

1

2

"from 3.7 to 7.7 without any having
been administered?"

3

4

And I take it that is the question that your preferred
diagnosis answers?

5

6

A. Yes.

7

Q. Although I take it you would
not rule out even the administration of potassium?

8

9

A. Oh no.

10

Q. As a possible explanation?

11

A. No, that has to be true, but
then we go back to Hamilton.

12

13

Q. That is right, he had them
there too.

14

A. Does lightning strike twice;
yes, occasionally it does.

15

16

Q. Yes, Doctor, but you are
suggesting lightning strikes twice, are you not?
You are suggesting twice , transient adrenal
insufficiency visited this child.

17

18

19

A. Of if you have that situation
it is not that transient.

20

21

Q. It may recur?

22

A. Oh, you are talking about
some things that occur, you know, likely to last
for days or probably weeks or so until that adrenal

23

24

25



AA7

1

2

takes over.

3

4

You see there is a funny thing that happens during - oh, I may be boring you.

5

Q. No, not at all.

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

A. During pregnancy the adrenal gland has a tremendous role to play, it has to do with all the sex hormones. It has three roles, the adrenal cortex does, it controls fluid and electrolytes, sodium, potassium, chloride; it controls sugar from another zone; and it controls the sex hormones. In the uterus mother is providing the sugar so they don't have to worry about that situation; the mother is providing the salt and the water so the baby doesn't have to worry about that. So those two zones are not functioning, but there are a lot of hormone changes going on in the uteral. So that adrenal gland which normally is 1/30th the size of a kidney grows to be 1/3, it is almost as big as the kidney. When the baby is born, from the minute the baby is born the sex hormone thing is no longer needed, it just goes plonk and the other ones hopefully are starting to develop. So of the theory is, in many of these things that take place in that transitional month or so, the first month, two or three of life, is



1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

that things have not taken over the way they should. Sometimes you can't tell by weight because you may have some of that other part of the adrenal that is of no function. Even looking at these adrenals weigh a little bit heavier at this time would make you wonder about the one part closing down and the other part taking over. So it is a very complex thing.

On the other hand you can't even tell by looking under a microscope or anything because very often enzymes and hormones are things you can't see.

So just as a patient, as I said this morning, who gets cortisone for treatment of let's say rheumatoid arthritis or something, or ulcerated colitis and then is tapered off it and then a year or so later has a stressful situation and an infection and nothing else that has happened in the meantime, they seem normal, and I have had this happen to me and it is terrible and the patient dies in 24 hours because the adrenal couldn't take over.



1

2nov83 2

BB

DPra 3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

Q. Yes.

A. So, it is a transiently --
either has not taken over the job, likely, at that age
because we know of nothing -- I don't think mother was
on any cortisone or anything like that to suppress.

Q. I guess the difficulty
I am having, doctor, is this. I will ask you to
try to help me once more.

If, at the time of this child's
arrest, the glucose was at an appropriate level --

A. Yes.

Q. -- whether by maintenance
or by operation of the adrenal glands, it is at an
appropriate level, and the sodium only very slightly
depressed, the chloride is at an appropriate level --

A. It is getting an intravenous
of all those things, yes.

Q. -- whether by maintenance
or by function of the glands, I have a little diffi-
culty in knowing how the adrenal insufficiency is
going to affect the child.

A. In adrenal insufficiency,
there are only two things that kill you; either a
high potassium or low blood sugar. The commonest
cause in children - I did not want to get into this



BB2

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

but I will if you ask me - the commonest cause, the commonest adrenal problem - we hardly ever see a pure Addison's disease where all three layers are down, like J. F. Kennedy, or whatever - the thing we see is a funny thing that is inherited and it is reasonably common in children where the glucose level controlling hormones is normal, the sex hormone thing runs wild and the salt and water one is in the other direction. So, we get a mixed up picture.

So, yes, the situation is quite possible where the three things may act differently.

Now, he did not have that situation. He did not have congenital adrenal hyperplasia on pathology, so I cannot say. That may be what he had but I suppose there are things in medicine that we don't know yet and that, somewhere along the line, somebody may talk about transient selective or transient whatever.

Q. You just referred once again to President Kennedy --

A. I should not, I guess.

Q. Not at all, not at all.

-- who had a condition, I take it, of the nature of the one that you are positing.

A. He had a real Addison's



BB3

1
2 disease, not a transient one; so he was on replacement
3 hormones chronically.

4 Q. As we know, he died of
5 a bullet in the head, and I take it that, notwithstanding
6 your diagnosis of this child, we have to conceive
7 now bringing in these other elements, he may have died
8 of something entirely other than the hyperkalemia
produced by transient adrenal insufficiency?

9 A. I will take you back to
10 my conclusions. That is why I wanted to raise them
11 first, because I think the onus is on the pharmacology
12 experts to explain that, and I have asked them some
13 stupid questions, but that is their job to say that it,
14 rather than -- I will probably say, how do you account
15 for the potassium that was high at St. Joseph's, that
16 again was high when he left McMaster, having dropped
17 down and got back up to 5.8 and, on a third occasion
here, was high again; that is all.

18 Q. Would one explanation be,
19 doctor - and I am by no means advancing this. Would
20 one explanation be that whatever the cause of the
21 high potassium at St. Joseph's and St. Michael's (sic),
22 on this occasion, we are seeing high potassium in the
23 presence of high digoxin, whichever may be the chicken
or the egg?

24
25



BB4

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

A. Yes, or as you say, high

digoxin --

Q. In the presence of high

potassium.

A. Yes.

Q. That is one possibility,

is it?

A. That is one, although, as I

say, you get into difficulties. Yes, he was on dig.

at McMaster, you are right. You said St. Michael's,

but he was not really at St. Michael's.

Q. I thought I said St.

Joseph's.

A. You did, but then you said

St. Michael's after that. You should change that to

McMaster.

Q. Yes, let us leave St.

Michael's out of this.

In the chart, Dr. Bain, at page 67 --

perhaps you could turn first to pages 63 and 66. There

are two notes there by Dr. Costigan. The first is

at page 63, when he was asked to see this child on

the ward and he went there and, at that time, did not

have the information about the elevated potassium.

A. Yes.



BB5

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

Q. His differential diagnoses, as you see in the middle of the page, "sick sinus syndrome or digoxin toxicity".

A. Yes.

Q. Do you see that?

A. Yes, I see it.

Q. I take it, Dr. Bain, that without the chemistry information at that stage -- I had better not take it. I will ask you: Are those sensible differential diagnoses for the doctor to have made at that stage?

A. Yes, they are. I suppose if he had read the history, he might have queried, as he did later, because of the high potassium at St. Joseph's. But those are perfectly sensible as they stand, yes.

Q. And at page 66, this is in the ICU, the same differential diagnoses appear.

As I recall, he still had not got to the electrolyte information.

A. Yes.

Q. Then, at page 67, this is following the arrest, he raises the question at the bottom as to the explanation for the elevation in potassium.



BB6

1

2

A. Yes.

3

Q. The very question that

4

you have raised and answered by the diagnosis you
have stated.

5

6

At page 67 at the top, that arrest
note, Dr. Costigan refers to "severe bradycardia
followed almost immediately by ventricular fibrilla-
tion". I believe I have Dr. Rowe's evidence correctly.
I think he told us that ventricular fibrillation is
very uncommon in infants with structurally normal
hearts.

11

12

A. I think that is what that
paper says as to the electrical mode of dying in
children.

13

14

15

Q. You are aware, of course,
that Pacsai had a structurally normal heart?

16

17

A. Yes.

18

19

Q. Do you attach any signifi-
cance to the manifestation of ventricular fibrillation
as one of the symptoms at the onset of arrest?

20

21

22

A. Not really. You see, what
that paper is talking about is people dying of, let
us say, infection or whatever. You have to die of
something.

23

24

25

Q. Yes.



BB7

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

A. Costigan, you see, he
put "? hyperkalemic arrhythmia".

Q. Yes.

A. He is questioning the
business of potassium itself doing that.

Q. Yes, of course.

A. And potassium itself does
that. I could give you a reference if you wish. I
would have to write it down because I am not --

Q. I am perfectly happy to
accept your word for it.

A. -- a cardiologist, but let
me just read what Moss and Emmanoulidis - George
Emmanoulidis trained here and he is in California now,
I think, but he said:

"Hyperkalemia, various degrees of A-V
block, ventricular fibrillation
and ventricular tachycardia, terminal
cardiac arrest, low P waves, border-
line QRS, tall Ts."

So, it can happen with dig., and I
think Dr. Costigan rightly pointed that out.

Q. Forgive me, is that written
with respect to infants?

A. I am virtually certain that
is infants, but let me see if I have written down -- I



BB8

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

can't -- I am only virtually certain, so I will check that for you.

MR. LAMEK: Thank you, sir.

MR. ROLAND: Excuse me, the doctor said that can happen with respect to dig. I thought he was talking about potassium.

THE WITNESS: I did. I was talking about potassium.

MR. ROLAND: He said "dig." and I thought he meant potassium.

THE WITNESS: Did I say "dig."?

MR. ROLAND: You said "dig."

MR. LAMEK: Q. I understood you to be making that reference in respect to the hyperkalemia.

A. Yes, because that is what Dr. Costigan said.

Q. Is it your understanding, doctor, that those same results may flow from digoxin toxicity?

A. I believe so, yes.

Q. Other than situations of potassium or digoxin intoxication, is it your understanding that ventricular fibrillation is very uncommon in a child with a normal heart as an electrical mode of



BB9

1

2

death.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

A. That is what that paper says, but I think what one must understand is that it does not mean it does not happen.

Q. Oh, no.

A. So, somebody has to make up that small group, and it always turns out to be my patient.

Q. Not in this case.

A. Not in this one.

Q. Doctor, can we come back then, and I will give you a chance to restate your conclusion, if you will. Plugging in now the digoxin data, the greater than 10 ante mortem level and the 25 or 26 post mortem level, do you have any firm opinion as to the possible cause of Kevin Pacsai's death?

A. I can only reiterate - if I could ever find my conclusions around here. Could you tell me what page they're on? I don't have my pages numbered.

Q. I don't even have your report in front of me.

A. I will find it very shortly.

Q. Page 34, I believe.



BB10

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

A. I have it. Thank you.

I said, and I agonized over the wording of these things. I said:

"Kevin Pacsai may well have had idiopathic adrenal insufficiency of the newborn with death being due to very high potassium level, as evidenced by the biochemical laboratory data (in Hamilton and Toronto)...

All of the patients had underlying medical conditions which could have caused cardiac arrest and death. It is possible toxic levels of digoxin could also have been the cause."

That applies to Pacsai and, then, I went on to say that it could be deliberate administration, accidental administration and/or interpretation of the lab results.

I swore to myself that until the next bunch of evidence was in from the specialists, I was not going to speculate.

Q. I certainly don't ask you to express an opinion in which you can have no clear



BB11

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

confidence, doctor.

A. Thank you.

Q. Let us then look at Jordan Hines. Your section on that baby begins at page 17 of your report. The digoxin information is set out on page 43 and the chart, if it is needed, I hope is there beside you.

Do you have the Hines chart there, doctor, in case we need it?

A. It is not.

MR. LAMEK: I wonder, Mr. Registrar, if you could have the Hines, Estrella and Lombardo charts, please.

THE WITNESS: And Belanger.

MR. LAMEK: And Belanger. Thank you. Yes.

Q. Dr. Bain, was it your opinion, when you wrote your report, that the probable cause of death of Jordan Hines was Sudden Infant Death Syndrome?

A. I am trying to remember. There was no question in my mind of missed-Sudden Infant Sudden Syndrome.

Q. Yes. Pathological signs?

A. No question about that



BB12

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

whatsoever. Well, everything. The history, the physical exam, the things that I have gone through before; no question about missed-Sudden Infant Death. I note in my report that he died of SIDS but I also qualified about the dig. So, if you can walk that line, my wording should either have been -- what have I got there in my conclusions? "Almost certainly had Sudden Infant Death Syndrome", I believe is what I said. If I were to change it, I would say, "He certainly had"; not almost had, "certainly had missed-SIDS; may have had Sudden Infant Death", and then I would go on to say about the --

Q. The "but"?

A. "But", yes.

Q. And I take it, Dr. Bain, that those views have not changed?

A. They have not changed, no. If anything, they have been strengthened, I would say.

Q. But you were aware, I take it, when you wrote the report, and obviously are aware now, that digoxin was found both in the fixed and exhumed tissues of this baby?

A. That is true, yes. I think that was in the trial, the first, yes.

Q. And Dr. Spielberg, as I



BB13

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

recall his evidence, agreed that that very probably indicated that he had received digoxin during his life.

A. Yes.

Q. Although Dr. Spielberg obviously cannot say when the dose was administered or what was the size of the dose.

I take it you accept those views?

A. I would accept those views.

Q. And you know also that digoxin was not prescribed for this child.

A. Yes, I understand that.

Q. And you know, too, Dr. Bain, from the chart, that Baby Hines, like Baby Pacsai, had a structurally normal heart.



CC
BB/cr

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

A. Yes, I think that is so.

There was a question earlier on of a -- no, I keep getting the two of them mixed up. Someone said that one of their hearts was enlarged but I think that was Dr. Moes regards Pacsai, but nevertheless structurally or pathologically I understand that, yes.

Q. And you will perhaps recall from the chart, Dr. Bain, that like Baby Pacsai this child too went into ventricular fibrillation at or immediately before the time of the arrest?

A. Yes.

Q. So, if that be an uncommon feature of children with healthy hearts - not healthy hearts, structurally normal hearts.

A. According to the people - the person who seems more closer to them is from Milan, Italy and somewhere in Texas. It is his theory as to the cause, most of the causes of SIDS - most of SIDS deaths is that it is a cardiac arrhythmia of that type.

Q. Of a fibrillation type?

A. Yes, and different ones. But that is certainly included in his, and I can give you the reference, I have a lot of references here which you may already have. But nevertheless, that



1
2 is his theory. I think most other people feel that the
3 changes in rhythm are probably secondary and terminal,
4 but yes, those ventricular premature beats and
5 ventricular fibrillation are part of that syndrome.

6 Q. All right. I have no doubt
7 that counsel for this child's parents will take further
8 the question of SIDS.

9 A. That's fine.

10 Q. But let me put this to you,
11 Dr. Bain, if I may. We have agreed that digoxin not
12 having been prescribed for this baby, its presence
13 in his body, although it cannot tell us anything about
14 the levels, at least indicates that he received digoxin.

15 A. The reason I am sitting
16 here doing this is the business I suppose that comes
17 up in this is that, is the question of the endogenous
18 dig. like substance because no one - I believe in some
19 of the earlier testimony from the doctor from Vancouver
20 said that he had some tissue levels but you didn't
21 get him to tell you what they were because his paper
22 is awaiting publication.

23 Q. Yes.

24 A. So, I don't know the
25 magnitude of those at all. You see, that is really
all we have here because the other specimens they have



1

2

in the Ely medium, those aren't like blood or anything,
they are tissue.

4

Q. Yes.

5

6

7

8

A. That is put in there. So,
if there is any in there it is going to give you a
very high level. It was ground up heart and it was
ground up lung. So, on the other hand, the levels
here in fixed tissues are pretty low.

9

10

Q. They are not very high?

11

12

A. No.

Q. I accept that, Doctor, and

is a perfectly proper question.

13

14

15

16

A. Yes. So, I don't know, I
would have to withhold judgment on whether - and that
again would be aimed at the experts, whether that could
be due to endogenous dig.

17

18

19

20

21

Q. Well, I think I have it
correctly but I will check and let you know tomorrow
but I think I have it correctly that Dr. Spielberg
didn't regard that as a very high possibility, although,
just as you did he acknowledges it was a possible
explanation.

22

23

24

25

A. As I say, we all think alike,
no one thinks. So I don't know, Mr. Lamek.

Q. If the presence of digoxin



1
2 in this child's body does indeed indicate the
3 administration of an unprescribed dose during life,
4 Doctor, can we go on from there. Are you aware that
5 of the 36 children whose deaths are here under review
6 four had never had digoxin prescribed for them; that
7 is to say, Cook, Hines, Lombardo and Belanger?

4
8 A. Yes, I am aware, I am just
9 not aware of the exact names or numbers. I have it
10 written down too, but I accept that, I will just check
11 it. If anything it is certainly no less than that.

11 Q. Yes.

12 A. Yes.

13 Q. And are you also aware,
14 Dr. Bain, that digoxin was reported as having been
15 found in each of those four children?

16 A. Yes, I am. Yes, I think
17 that's probable, yes.

18 Q. Now, if one can infer from
19 the presence of digoxin in their tissues that each
20 of them in life received one or more unprescribed
21 doses of digoxin, and Dr. Spielberg has said that
22 it is possible in his view that those administrations
23 of digoxin could have been medication errors. I
24 think I do not do violence to his evidence by summarizing
25 it in that way?



1
2 A. I guess you are asking me
3 to say if he says that do I agree with him that that
4 is a possibility, yes.

5 Q. Well, do you have an
6 opinion as to the likelihood of such error having
7 occurred with each of those children?

8 A. Yes, this is where I have
9 a little difficulty again until the evidence is in
10 because when we come to Lombardo I understand Baby
11 Lombardo's body was not embalmed.

12 Q. Yes.

13 A. And that it was, I have
14 forgotten how many months had passed and, therefore,
15 if the tissue, I don't know whether that was 14 or
16 10, if the tissues were still something that could be
17 recognized as tissue, then it must have become very
18 very dehydrated, almost mummified because otherwise
19 it would have - I do believe I remember Dr. Cimbura
20 saying that it was pretty smelly.

21 Nevertheless, it could be very de-
22 hydrated and if one assumed even if one had a blood
23 level at a pretty low level of something, one of those
24 substances let's say of only two or three and the
25 ratio between blood and tissue is 150 there you've
got 300 and then if you are completely mummified then



1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

there is another factor of 10. So, that is what I am concerned. You may know and I think I mentioned I was going to get something from an Egyptian mummy, I did.

Q. Did you?

A. Yes, I did.

Q. And he had digoxin?

A. No, he did not because I found out later I don't think there was any fox glove in Egypt at that time. But nevertheless I think that mummification ... Therefore, I can't, on the patients who were exhumed I have difficulties.

Q. I understand that, Doctor. Can I ask you to make the assumption with me, first of all, if those measurements of what is believed to be digoxin in those children does indeed represent administration of digoxin, make that assumption with me, do you have an opinion as to the likelihood of each of those children having received digoxin by medication error?

A. Well, I think following those assumptions I guess I have to say that it got there somehow and I go back to my conclusions that it is not necessarily medication error, there are those other options.



1

2

Q. I understand.

3

A. Which are even worse.

4

Q. I understand, Doctor, but

5

let me try again. What is said to be digoxin has

6

been measured in the bodies of four children, none

7

of whom had digoxin prescribed. I ask you to assume

8

first, Doctor, that what is thought to be digoxin

9

is digoxin and not some endogenous cross reactive

10

substance.

A. Don't forget, the evidence

11

is not in, excuse me, but the evidence is not in on

12

whether what is produced is digoxin. The people in

13

Winnipeg say it is.

Q. Well, I hadn't heard that.

14

A. I think I have given you a

15

paper on that at one stage of the game.

16

Q. I don't recall that, Doctor.

17

A. Is there an endogenous

18

digoxin or digitalis is the question.

Q. All right.

19

A. And they think yes. So,

20

that is what I meant, I am not trying to be ...

21

Q. Let me ask you then to

22

make another assumption.

23

A. Okay.

24

25



1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

Q. Assume that each of those children received an unprescribed dose of digoxin during life.

A. Right.

Q. And so far as I am aware, Doctor, they are the only four of the 36 we are looking at for whom the drug had never been prescribed. I believe that to be the case.

A. Yes.

Q. And Dr. Spielberg has suggested that with respect to each of them and all of them the administration could have been drug error?

A. Yes.

Q. And I ask you if you have an opinion as to the likelihood of such an error as having occurred with respect to all four of those children?

A. Well, I think what one would have to look at is the four children out of how many children who were getting digoxin, over what period of time. You see what I am saying? Because if in various - you know, even if your figures are down around medication of errors are one and two per cent instead of, you know, some hospitals that were in the



1
2 non-unit dose in Justice Dubin's Report were as high
3 as 20 or averaged out at around 11 or 12, but even
4 if you got around 1 or 2 and you could figure out
5 in the time period here how many patients were getting
6 digoxin and how many doses of digoxin, you might
7 get down to even with those four getting it of saying
8 that represents an error of 0.000 medication error or
9 0.01 and although I don't like that and I don't like
10 to accept anything in the way of error, without knowing
those things I can't answer your question.

11 Q. Okay. My only question is,
12 do you have an opinion and you are telling me you
13 cannot form one?

14 A. Yes.

15 Q. You cannot form one?

16 A. Yes.

17 Q. All right. Now, again, as
18 I understood him Dr. Spielberg also suggested that if
19 the elevated digoxin levels in Allana Miller, Kevin
20 Pacsai, Kristin Inwood and Janice Estrella, all of
21 whom had digoxin prescribed for them, if those
22 elevated post mortem levels were caused by unrecorded
23 administration of the drug it was again possible in
24 his view that those administrations too could have
25 occurred by medication error and I ask you are you able



1

2

to form an opinion as to the likelihood that each
and every one of those digoxin levels ---

3

4

A. Well, my answer has to be
the same.

5

6

Q. The same?

7

A. I hate to hedge but one
does have to know across the board what period of time
we are talking about.

8

9

Q. All right.

10

A. And the number of doses and
so on.

11

12

THE COMMISSIONER: Yes, Mr. Roland.

13

MR. ROLAND: Yes. Just so that my
friend is fair with Dr. Spielberg's evidence he said
that some or all may be errors but he didn't say that
they all had to be errors. He simply left it that
there was a possibility that any one of them was an
error or any combination of.

14

15

16

17

18

MR. LAMEK: Or all of them is what I
thought he said.

19

20

MR. ROLAND: Or all of them. But he
didn't - my friend, he said that is possible, although or
some of them. So, when his evidence is put back I
think it should be put back fairly that he didn't say
it was necessarily all, it could be one or two or

21

22

23

24

25



1
2 more but the possibility was that any one of them
3 could be error.

4 MR. LAMEK: All right.

5 THE COMMISSIONER: Yes, I will accept
6 that. I will accept that, but if you say they all
7 could be errors it follows that some could be errors and
8 it perhaps follows that none of them could be errors.

9 MR. ROLAND: He wasn't pressing the
10 case that they were all errors, he simply said the
11 possibility of some of them could have been errors.

12 THE COMMISSIONER: I am sorry, I put
13 it the wrong way. You say some of them could be errors,
14 it follows that all of them could be errors, would it
15 not?

16 MR. STRATHY: If we are dealing with
17 likelihoods, Mr. Commissioner, I think you stretch
18 the likelihood to put all of them to the witness
19 rather than, as Mr. Roland points out, just as some
20 that Dr. Spielberg identified.

21 THE COMMISSIONER: Yes.

22 MR. LAMEK: Q. I take it, Dr. Bain,
23 you would be no more able to express an opinion as
24 to likelihood if I was talking about one of them or
25 four of them?

A. Correct.



1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

12

16

17

18

19

20

21

22

23

24

25

Q. Thank you. Now, the next of the seven children in our backward chronology, Dr. Bain, is Janice Estrella. Your report deals with that child beginning at page 15. The digoxin data set out at page 43 and I think the chart has been put beside you if you should need it.

A. Yes, thank you.

Q. Again, Dr. Bain, the view that you expressed in your report, if I understand you are right is that this child's death is certainly explainable by her clinical condition, forgetting again about the digoxin for the moment.

A. Well, you know, this poor little thing I don't think she had gained any weight for several months for one thing and just everything.

Q. Yes.

A. She had never picked up after her surgery in early December and everything was going wrong. Yes, I have no concerns whatsoever with Janice Estrella clinically.

Q. And you have summarised the history of this child and the problem that she had on the 7th of January when there was apparently some renal difficulty, was there not, and a very highly elevated BUN?



1

2

A. Yes, and she got into dig.
toxicity.

4

Q. And got into dig. problems
at that stage?

5

A. I think the BUN was up then.

6

Q. Yes, I think the biochemistry
reports, Dr. Bain, you will find at page 156. No,
it is earlier than that I am afraid - 159, I am sorry.
She had a BUN of 32 on the 7th of January.

10

A. Yes, thank you.

11

Q. And that number came down
on succeeding days. You have noted inter alia that
on January the 7th ---

13

14

A. I am sorry, what does
inter alia mean?

15

16

Q. I am sorry, among other
things.

17

18

A. Okay, I wondered about that
for a long time.

19

20

21

22

23

24

25

Q. All right. One of the
things you have noted is that on January the 7th she
had a high serum digoxin level. In fact, we know from
Dr. Ellis' book that that was 9.4. I take it you
regard that as linked to the apparently impaired renal
function at that time.



1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

A. I'm sorry, which date was that?

Q. 7th of January.

A. 7th of January.

Q. 7th of January the level is shown on the biochemistry report as greater than 5.

A. Yes.

Q. In fact, I tell you, Doctor, we know from the dig. book in the lab that it was 9.4.

A. Right.

Q. And I take it that you connect that or suggest a probable link between that and the impaired renal function?

A. Probably, yes.

Q. And digoxin was withheld at that time, as we know, and BUN came down to more acceptable levels, as Dr. Rowe has described them, until by the 10th of January under 5.

A. I am having trouble with my bifocals. It's okay. Yes, I have that. Thank you.

Q. Fine. And on that same page it appears ---



1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

A. But even going back to the
8th, you know, the 21 is acceptable or just starting
it.

Q. Yes. And Dr. Rowe has
said certainly from the afternoon of the 8th until
the 10th those numbers are entirely acceptable for
the BUN?

A. Yes.

Q. 9, 10, 14, less than 5.

A. Yes.

- - - -



/DM/ak

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

At the same time it appeared, did it not, that the digoxin level was coming down; the level on the 8th which is reported at greater than 4.7, was as I recall it 7.3.

A. 7.8, I believe, yes, at least that is the number I have written.

Q. I am a bit puzzled, Doctor, by the number that you have in your report on page 15, when you report a level in a sample taken at 9:30 in the morning on January the 9th.

A. Yes.

Q. Which you report as 2.5 on a 2 to 1 dilution, so it is a true level of 5; the number that is reported on the biochemistry report is 4.7.

A. 4.7 and 5 I think you will find those people talk-are the same thing.

Q. It is not flagged as "greater than" on this report.

A. Oh, I see. I see what you are saying, on the 9th?

Q. I just wondered where your information came from?

A. I don't know, I will have to check it, it may be that my true level was 4.7 rather



1
2
3 than 5 because they kicked those two things around
4 so they are interchangeable.

5 MR. ROLAND: As I recall the
6 evidence and I stand corrected. As I recall the
7 evidence there were two levels, there was one done
8 neat and there was one done diluted. The evidence
9 was that you preferred the sample that was done neat,
10 it is more accurate, and that was 4.7, rather than
11 gerater than 4.7. While the diluted one was as the
12 Doctor's report says 2.5.

13 MR. LAMEK: Thank you, I had not
14 recalled that and I don't know where that report is.

15 MR. ROLAND: I think it is in the
16 dig. books.

17 MR. LAMEK: I'm sorry, you may
18 have looked in the one source and I in the chart,
19 I am sorry.

20 Q. I am sorry, Doctor.

21 A. That is all right, that is
22 probably my error.

23 Q. Now, Doctor, coming to the
24 post mortem dig. information, we have heard a great
25 deal of evidence here about the taking of those two
post mortem samples. There are two questions that
I have of you, both arising out of your page 16 in



1
2 your report, the last two paragraphs. I don't
3 argue for a moment with your putting blood in
4 quotation marks there.

5 A. No.

6 Q. You say:

7 "However, this was quite contaminated
8 with edema fluid and ascitic fluid
9 and the level was said to be 72."
10 With the result that "was said to be" and I am not
11 concerned about that.

12 The autopsy report, and I am looking
13 at page 12 of the chart, Doctor, it is a very small
14 point and I am being rather pedantic about things
15 I am afraid.

16 A. That is all right.

17 Q. The final autopsy report on
18 page 12 refers to these samples as being "contaminated
19 slightly by edema fluid and ascitic fluid". I just
20 wonder if there is a measure of interpretation on
21 whether your use of "quite contaminated" reflects
22 some outside information you may have had.

23 A. My understanding, and correct
24 me, if I am wrong, was that Dr. Taylor came in and
25 I understood this whole issue was settled, the
specimens, the manner of obtaining them, of milking



DD4

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

the leg and got some of it out of a gutter, and on the other hand, milking a leg and trying to get some of it out of the vein.

Q. Yes.

A. And that to my mind both of those, if you are milking the leg are going to be pretty - I think I would stick to my - but it is on the basis of that and that is only hearsay, or I may have read it in the paper even when Dr. Taylor came in.

Q. So your "quite contaminated" is intended to reflect the autopsy report "slightly contaminated", or is it an editorial comment on your part?

A. It is my view I think, but I guess ---

Q. All right.

A. I think at the beginning, I'm just trying to remember about that second specimen, because I think what it said, and what sticks in my mind which could be completely wrong is "obtained straight from the vein".

Q. Yes.

A. So when I went back over that to see whether in fact somebody had put a needle in a



1
2
3 vein and took something, I found that that was not
4 so, that there was a gapping vein after the autopsy
5 was complete, and as I recall going back to the
6 body because they had forgotten to get it, of
7 milking the leg and trying to get some blood as it
8 came out. To my mind both of those mechanisms were
- I would not accept.

9 Q. Certainly I am not defending
10 them and I don't think Dr. Taylor did. But fairly,
11 Dr. Bain, the only reference to the sample that I
12 recall, and I am talking now about the gutter blood
sample.

13 A. Yes.

14 Q. In the chart, is the one in
15 the final paragraph of the final autopsy report
16 which refers to the sample as being contaminated
17 slightly by edema fluid and ascitic fluid; and it is
18 exactly those two contaminants that you have referred
to in your report.

19 A. That's right.

20 Q. When you say the "blood" was
21 quite contaminated, I want to know is there a
22 difference between quite contaminated and slightly
23 contaminated?

24 A. There certainly is, and I
25



1
2 think maybe it is explained in my last line:

3 "Dr. Gilbert Hill stated there were
4 also technical problems with the
5 collection of the second specimen."

6 Now, Dr. Gilbert Hill is head of
7 Clinical Chemistry and I obviously, if I have
8 written that, I have obviously gone to him and said:
9 "What about the second specimen that says there was
10 a small amount from a vein?" and he said to me ---

11 Q. Yes?

12 A. "There were technical problems
13 with collecting that". Therefore if there are
14 technical problems I don't think you can say whether
15 it is minimal, or maximum, or technical problems
16 at all, it is suspect.

17 Q. I accept that, Doctor, but
18 have you not purported to put a qualifier on as to
19 the level of contamination, "quite contaminated"
20 you have told me means something different and
21 was intended to mean something different than
22 "slightly contaminated".

23 A. Well, ---

24 Q. I would like to know what the
25 evidence was?

A. The evidence was what Dr. Hill



1
2 told me.

3 Q. All right.

4 A. That there were technical
5 difficulties in getting it.

6 Q. Did he tell you what the
7 difficulties were?

8 A. If he did I don't recall it
9 and I did not recall the exact thing until Dr. Taylor
10 came, and then I heard that Dr. Taylor said that
11 in fact they got it by milking the leg. I may be
12 wrong, I have not read that evidence.

13 Q. No, he said he got it by
14 milking the leg and putting syringe ---

15 A. And putting a syringe into
16 the end of the vein, which to me is - that has to
17 be more than a "touch pregnant", that has got to
18 be more than a touch contaminated.

19 MR. STRATHY: I am sorry, I did
20 not hear that?

21 THE WITNESS: I said a "touch
22 pregnant" but more than a touch contaminated. I
23 just don't see how you could do that and say it
24 was slightly contaminated, you couldn't say.

25 MR. LAMEK: Q. Did you talk to
Dr. Taylor?



1

2

DD8

3

A. No, I did not.

4

5

Q. Did you know at the time
you wrote your report that it was he who collected
the samples?

6

7

8

9

10

11

12

13

14

15

A. I don't know that. When I
mentioned to you at the beginning today that someone
came to that Risk Management Committee a long time,
or a month or whatever before and told us, and that
was the little bit of evidence I had that bothered
me, was the collection of those. I can't for the
life of me remember whether it was Dr. Taylor who
came and told us at that particular time. That
particular time was before I was assigned the job,
or asked to do the job of reviewing things, and
it bothered me.

16

17

18

Q. I suppose, Doctor, the weight
that can be attached to any levels recorded in those
is for someone other than you and me to determine?

19

20

21

22

23

A. I think so, sir, yes.

24

25

Q. Did you though, Doctor,
attach any significance to the samples having
been ordered at all? Did it occur to you to say
"Why were these post mortem levels ordered taken
for digoxin assay?"

A. I imagine that went through



1
2 my head, but I would - I am supposed to tell the
3 truth, and the whole truth and nothing but the
4 truth sitting here. The thing that is sort of
5 in the back of my mind was scuttle-butt, which has
6 probably all been gone through of Dr. Freedom being
7 called in the middle of the night and thinking the
8 pateint was still alive, and saying get another
9 specimen and didn't realize that the patient had
10 succumbed. That was in the papers I think back at
the preliminary trial, so that was ---

11 Q. You think that may have been
12 in your mind, possibly?

13 A. Yes, I do.

14 Q. Because I take it that ---

15 A. Well, it is not, you know,
16 it is not a thing that you do, but when somebody
17 starts doing it then it goes on; no, I did not.

18 Q. All the evidence we have
19 heard so far here, Dr. Bain, is that these samples
20 drawn from Estrella for post mortem digoxin assay
21 were the first occasions upon which such samples had
been drawn for that purpose in the Hospital?

22 A. Yes.

23 Q. I take it you had never heard
24 of it before either?
25



1

2

A. That is true.

3

4

5

6

7

Q. Are you aware that a study was conducted by the Hospital and the Centre of Forensic Sciences to attempt to obtain post mortem samples by attempting to duplicate the method of drawing these two samples?

8

A. No.

9

10

Q. I think that occurred shortly after you had written your report, are you now aware of it?

11

12

13

14

15

16

A. I don't think I am. What I was aware of and I have written it down but I don't have it with me, was I think during the pre-trial testimony when Mr. Cimbura was testifying he talked about some experiments that he had done, whether that included that or not.

17

18

19

20

21

Then the other was, I think after this affair, I think Dr. Phillips was instructed to do that, but for some reason my understanding is that that was, the results were to go not out that way, they were to go back that direction and they were not --

22

23

Q. You mean from the Hospital to the Centre?

24

25

A. That is my understanding, I was



D11

1

2

never made privy to that material.

3

Q. So you have no awareness?

4

A. Not even now.

5

Q. When the study was done and

6

what the results were?

7

A. No.

8

Q. And can I fairly put it,

9

Doctor, that you probably cannot help us any further
on the vexed question of these Estrella samples and
levels?

10

11

A. True.

12

Q. Let us move to the last of

13

your seven children in Group 2. Stephanie Lombardo,

14

you reviewed that child's death beginning at page

15

22 of your report. The digoxin data is set out on

16

page 45 and a copy of the chart should be beside you.

17

Dr. Bain, in your report you deal

18

with this child in fairly short order. You summarize

19

the main points from the chart, if I may say so on

20

pages 22 to 23, there is no mention of the fact that

21

digoxin was found in her body, but that I take it

22

is consistent with the practice of dealing with

23

the clinical picture first and setting the digoxin

24

information on one side?

25

A. I would think so, I haven't



1
2 done the same thing with each one of these it
3 appears.

4 Q. No, it is not an entirely
5 consistent pattern.

6 A. This is so, but that is all I
7 can think - I don't recall.

8 Q. I take it, Doctor, we can
9 agree that the measurement of what is believed
10 to be digoxin in this child's tissues is an important
11 factor to be considered?

12 A. Would you repeat that please,
13 I am sorry.

14 Q. Yes. That the measurement
15 or identification of what is thought to be digoxin
16 in this child's tissues is an important fact.

17 A. Very important, yes.

18 Q. Because she was not prescribed
19 digoxin?

20 A. Right.

21 Q. And in much the same way as
22 Hines has to be considered?

23 A. Yes.

24 Q. And Cook?

25 A. Yes.

Q. And we don't know how much,



DD13

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

or when any administration occurred; or how much was administered; or when it may have occurred. I take it that the presence of digoxin in this child is the reason for her inclusion in your Group 1B?

A. Yes. As I said it was in my report that it was, the three added in the preliminary trial.

Q. And I take it, Doctor, and hoping not to be too repetitious, that in light of that piece of information, the presence of what appears to be digoxin in the child you cannot say with any assurance either that her death resulted from natural causes, or that it resulted from digoxin.

A. Correct.

Q. It is impossible for you to make that determination?

A. Correct.

Q. Each is a candidate for cause of death?

A. Yes. I am sorry, I just nodded my head there and you couldn't see me.

Q. With that consideration in mind, Doctor, could we look at a couple of the matters which you have summarized in your report



DD14

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

of this child. The top of page 23, it really begins
at the bottom of page 22:

"At 0345 hours the baby vomited but
did not appear to aspirate."

And she then develop:

"Ventricular fibrillation and cardio-
pulmonary resuscitation was immediately
begun."

And recognizing everything that we have heard and
everything that you know about the non-specificity
of the so-called symptoms of digoxin intoxication,
do you attach any significance at all to the
vomiting, followed by ventricular fibrillation,
followed by arrest, in the case of this child?

A. Not really.

Q. Those are not events in the
sequence that tend to suggest one of the two
candidates for cause of death?

A. Not to my mind, they could
be either, sir.



nov83
E
Pra

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

Q. Now, you have recorded,
as the chart does, that blood pH was 7.16. Do you
attach any significance to that pH level?

A. It is on the low side but,
once you get people who are starting to arrest, I
think oftentimes you can throw all those results out the
window.

Q. They are frequently
acidotic at that stage?

A. They are acidotic and they
are not breathing properly; everything is falling
apart.

Q. And for the same reason,
would you discount, or do you attach significance to
the potassium level of 7.4?

A. Again, it is a situation
of dying, I suppose.

Q. In other words, they are
into the arrest at this stage?

A. This was apparently taken
about ten minutes after the arrest.

A. Yes, about ten minutes
ten minutes after the arrest.

Q. And do the bicarb. or sodium levels
cause you any concern in that child, doctor?

A. No. Sodium is at normal
level and bicarb., I think all it suggests to me -- it



EE2

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

is reasonably normal. All it suggests to me is that the pH that has shifted down to an acid side at 7.16 is due to the baby stopping breathing; the carbon dioxide has piled up and switched the equation. It is not a chronic thing where the bicarbonate has been lost, because this is the other part of the equation.

Q. You have done with this child, doctor, on page 23, what I do not recall your having done with all of the other children. You have noted the medication that the child was receiving; ampicillin; gentamycin and, at times, potassium chloride; heparin.

Is there any particular reason for that in this case?

A. I don't think so. In my other worksheets, I had them everywhere and I had, at times, thought that I should go back and put them all in but then I felt that that is a monumental job and that is what the CDC people, hopefully, have done. So, no, not really. I would imagine, trying to think about it, with the potassium up a bit, was he getting potassium and, at times, he was getting some additional potassium, I see. So, that may have twigged, you know, that I saw that he was getting potassium and then saw the result and consequently put it down.



EE3

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

Q. Immediately below that last line, Dr. Bain, there is a line of manuscript that I confess I have trouble reading. I hope it is your handwriting.

A. It is my handwriting.

Q. Terrific. I was hoping it would be because then you can read it for us.

A. Well, what it says is to:

"Check out syndrome of acidosis in babies receiving heparin in their diluents."

Because I was looking for additional things and I had just then cross my desk, on June 11, 1982, about the same time, a report from the Centre for Disease Control on some sixteen deaths in the newborn period out in Colorado that they were agonizing over, and I don't know whether they are correct or not but the babies were getting heparin just to keep ordinary intravenouses open.

Q. Yes.

A. And checking back, the preservative for the heparin is benzoate acid or benzyl alcohol; something like that, which, in little premy babies, can cause an acidosis. They ended up attributing their whole epidemic to that situation.



EE4

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

When I saw that he was on large doses - some of their, what they keep the veins open with is heparin, small amounts. So, I checked our heparin to see whether it has such a thing in it, and it does. This is not the typical age. They are not exactly the typical findings, but it is a question that I think has to be addressed.

So, it says:

"Check out syndrome of acidosis in babies receiving..."

blah, blah, blah. I don't know why I put those dots.

"...heparin in their diluent."

I guess I could not remember when I was doing it - I did not have the paper at home. But what should have been written there is, "benzyl alcohol".

Q. And other than the enquiries and check that you made, you did not carry that investigation any further?

A. I have not.

Q. Doctor, I think we have already talked about the two possible candidates for probable cause of death here and you are unable to choose between them, as I understand your evidence.

That, I think, Mr. Commissioner,



1
EE5 2 takes me to the end of the seven children in Group 2.
3 We will be turning to Group 1B in a moment.
4 Could we take a break now, please?

5 THE COMMISSIONER: Yes. Fifteen
6 minutes.

7 --- recess.

8 --- on resuming.

9 THE COMMISSIONER: Yes, Mr. Lamek.

10 MR. LAMEK: Q. Dr. Bain, I say
11 this as much for the benefit of the Commissioner as I
12 do for you. Mr. Roland has been good enough to find
13 for me in the digoxin books the reference to the other
14 Estrella sample, which is reflected in your review.

15 And, Mr. Commissioner, it is found
16 in Exhibit 32B, the preliminary exhibit. I do not
17 think there is any need for you to look at it. It is
18 Tab 46, page 169.

19 THE COMMISSIONER: This is the
20 Estrella one, is it?

21 MR. LAMEK: The Estrella one, yes.
22 It records that one sample was taken and divided into
23 two. As Mr. Roland recalled it correctly, one sample
24 was assayed neat and the other at a 1 to 1, or 2 to 1
25 dilution - whatever the appropriate ratio is. In the
neat sample, a level of 4.7 was recorded, and that was



EE6

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

the one that was reported. In the other half of the sample, which was diluted, a level of 2.5 was recorded, which, after multiplication by 2, became 5.

Q. Which leads me to ask you, doctor, did you look at the digoxin books in the course of preparing your review? Else, how did you get that information?

A. Which digoxin books?

Q. Dr. Ellis' digoxin books.

A. No. I think all of that, if I had it, I got from the preliminary trial testimony, because that is where he was talking about neat and everything. He did not have his book: and they adjourned the thing one day and sent him home to get it.

Q. I remember that. Okay.
Thanks.

Can we then, Dr. Bain, turn to your Group 1B. And those, to remind ourselves, were the cases in which a question was raised in your mind, either by something you saw in the chart or by someone raising something with you, and you felt it should be answered.

There were fourteen children in that category and, again, by way of quick recapitulation,



EE7 1
2 you concluded with respect to eleven of them that the
3 questions, whatever they were, could be satisfactorily
4 answered and that the deaths were fully consistent
5 with the patients' anatomical and clinical conditions.

6 Now, Dr. Bain, I don't propose to
7 deal with each of these fourteen children or even with
8 the eleven or even with all of the other three, you
9 will be glad to hear, but I do want to ask you some
10 questions about certain of them.

11 Then I will ask you to do what the
12 physicians who were dealing with these children at
13 the time may have had neither the luxury nor the
14 distance in time to do; that is, look back over all
15 these deaths that you reviewed in the summer of 1982.

16 You have arranged the children in
17 your Section 3, beginning on page 4, in alphabetical
18 order and, to the extent that I have questions, I will
19 follow that same order.

20 The first child to whom you refer
21 is the one about whom I have the most questions,
22 Jessé Belanger, and I think the chart is being made
23 available to you, doctor.

24 A. It is a thick one.

25 Q. It is indeed a thick one.

I think the part which we are interested in is more



EE8

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

towards the front of it.

A. What I did, just for your information, is, in my own notes, I took my other scribbled notes and scribbled a bunch of things up here that all came from my original assessment.

Q. You have summarized the child's hospital course and history in short order but it is, if I may say so, none the worse for that.

The child did leave the ICU three days after operation. There was indeed a problem with bed space and he did indeed have this atelectasis of the left lung.

Doctor, is it reasonable to infer from the fact that he was indeed sent out of the ICU that he was not, at least at that stage, thought to be at imminent risk of death?

A. I have a little difficulty with that, Mr. Lamek, because either during Dr. Rowe's testimony, I have written in my scribbled notes that Dr. Rowe was not anxious that he be transferred, and I think that did come out in evidence. So, I think there was a real concern about him being transferred. I don't think Dr. Rowe wanted to transfer him. On the other hand, he did go along with it and agreed to transfer him to the neonatal intensive care unit,



EE9

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

because it is a pretty high-pressure area, too, so there were concerns that the baby was sicker than he should have been.

Q. Entirely right, and there was pressure for space in the ICU, there is no question about that.

A. I understand that.

Q. He came from the neonatal intensive care unit to the ward.

A. Yes.

Q. He had that intermediate stop, did he not?

A. He did. In fact, I guess he was there two days.

Q. You conclude, doctor, in the final sentence of your passage on Belanger:

"There is nothing suspicious about this death."

When you wrote that report, I take it that you were not aware that exhumed tissues from this child's body had been assayed and what was considered to be digoxin had been found in ~~the~~ tissues? That information was not available to you?

A. I do not think it was even done, if I look at the dates --



EE10

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

Q. That is right. I believe
it to be in the fall of 1982 that that information
was obtained.

A. Yes. I did not know that.

Q. You are now aware of that?

A. Yes. I am now aware of that,
yes.

Q. You are aware also, as we
said earlier today, that digoxin had not been pre-
scribed for this child?

A. I seem to have question
marks on that. In one place, I said that it had. So,
over the weekend, I tracked it down and I believe that
I am wrong in one of my things, and you are correct;
that he did not have it prescribed.

Q. Again, may I take it,
doctor, that, subject to the reservations that you
have expressed before, one must accept at least the
possibility that digoxin was administered to the
child during his life?

A. Correct.

Q. And if it was, we don't
know when, we don't know how much; we don't know by
whom or by what route. We don't know whether it was
accidental or intentional.



Bain
dr.ex. (Lamek)

EE11

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

A. Yes. I would have to bump Belanger to my conclusions regarding the other seven.

Q. I take it that that acquired information, if I can put it that way, would have served to take Belanger out of 1B and put him in your Group 2?

A. Right.

Q. Once again, just to be sure that we are at one, Dr. Bain, I take it that the result of that transfer of this child from one category to another would mean that, although you are satisfied that his clinical condition could perfectly well have explained his death, you cannot be absolutely sure of that because of the reported digoxin?

A. Yes, I think that is so. He had a very rare condition, known as the Di George Syndrome and, with that, he had a very little thymus so that his immune mechanism was going to be on the blink as well as his parathyroids that go with that particular thing. I notice, in going back through the charts, that predisposes you to your blood calcium getting low and you can convulse from low calcium. Normally, it is about 10, and his did drop down to about the 6 mark once. However, it came back up. So, he was a sitting duck, in the long term. For



EE12 1
2 these babies, the long-term outlook isn't that good,
3 but your statement stands.

4 Q. I take it that the report
5 of digoxin in this child's tissues would cause you
6 some concern as to whether that may have had some
7 involvement in his death. Is that fair?

8 A. That is fair because, again,
9 they are exhumed tissues and I don't know whether they
10 are embalmed, so I think that has to go to those
11 experts.

12 Q. Dr. Bain, is the concern
13 that we have just described heightened by the knowledge
14 that very high digoxin levels were recorded in five
15 other babies; that is to say, Cook, Miller, Pacsai -
16 not as high, but substantial - Inwood and Estrella,
17 and that digoxin was found, or reported to have been
18 found, in three other babies who were not on this
19 drug; Cook, Hines and Lombardo.

20 Do those other considerations
21 serve to heighten your concern about this child?

22 A. I think probably that is
23 true, if I were looking at them as I did in an ongoing
24 way. But now, as you say, with the luxury of hind-
25 sight, then, yes, it heightens one's awareness but it
does not change the sort of conclusions I drew; that



EE13

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

this raises the question of accidental versus whatever
versus whatever versus interpretation.

Q. I understand that, doctor,
but in the early summer of 1982, you were looking
back over a large number of deaths that had occurred
in association with the cardiology wards. As I said,
in that respect, you had the advantage of a distance
and a perspective that, realistically, was not available
to the cardiologists on that ward in the period when
these deaths were occurring.

A. That is correct.

Q. In your report, as I under-
stood you this morning, you tried to put yourself back
in their position, treating these deaths one at a time
as they occurred on the ward, one at a time, more or
less in isolation, to the extent that you could do that,
is that really what you were trying to do?

A. That is really what I was
trying to do, but recognizing that it is probably --

Q. Very difficult.

A. Very difficult, yes.

Q. I guess what I am asking you
to do now, doctor, is to try and do a different
exercise from the vantage point of that eighteen months
distance that you enjoyed. Without suggesting in any



EE14 1
2 way, believe me, without suggesting in any way, for
3 the purpose of this, that the cardiologists at the time
4 should have been discerning patterns, will you
5 recognize with me that, looking back from a distance,
6 patterns may emerge that were not apparent at the time?



F/BB/ak

1

2

3

A. Oh, I think as people say
hindsight is sometimes 20/20.

4

5

6

Q. Yes, and there is nothing
wrong with it unless you try to attribute it to the
people who are actually in the situation?

7

8

A. Well, true. And, again, it
isn't necessarily correct.

9

10

11

12

13

14

15

16

17

18

Q. No, it isn't.

A. Yes.

Q. No, it isn't. But is it fair
to say, Dr. Bain, that, for example, the finding
of digoxin, if that be what it was in the body of
Jessie Belanger, although troubling enough in itself
because the child wasn't supposed to be on the drug,
that single finding may become much more troublesome
when it is viewed as part of the sweep of events on
the cardiology ward in that nine month period.

19

20

21

22

23

24

25

A. Well, those are difficult
questions.

Q. Yes.

A. You know, it is for that
reason that the second part of my recommendation was
that we needed an epidemiological study for me
to look at isolated events and wonder whether they
do represent a cluster or not is not within my area



FF2

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

of expertise. I have my views but they don't seem to coincide with what the epidemiologists say.

Q. And they may not be wrong for that.

A. That rightly is their bailiwick. I don't know whether that is answering your question but I don't know how else to answer it because I guess when you asked specifically about dig. that is one thing but then when we come down to the other factors that are involved at the time of death and those, that is where it really becomes important.

Q. Doctor, I recognize that you are not an epidemiologist but you are a a pediatrician of very considerable experience. Let me ask you then what your own reaction was, looking back over that period, the sequence of deaths, trying as hard as you could to deal with them one by one in an isolated fashion, did you, looking back, feel, well, what did you feel in looking back and seeing the number of children with elevated digoxin levels, the number of children for whom the drug had never been prescribed but in whom it had apparently been identified.

A. I have a little trouble answering that question because, as I have said, when I



FF3

1

2

3

4

5

looked through the list and I had all of them on
except Belanger, I had questions to ask about not
the numbers, as we have agreed, but the interpretation
of numbers.

6

Q. Yes.

7

8

A. And as I said at the time,
I said I will not comment further until such time as
somebody has put those numbers into focus.

9

10

11

12

13

14

Now, I feel the same about some of
the epidemiologic things that through the years I
have seen an awful lot of coincidences that, you
know, you just don't believe. So, cases looked at
in isolation looked all right, cases looked at in
a group - leaving dig. out of this.

15

Q. Yes.

16

A. But the other factors.

17

18

19

Q. Yes.

A. I can't, the evidence isn't

in my own thinking isn't one way or another or I
would prefer to say it is both ways.

20

Q. I'm sorry?

21

22

23

24

25

A. I could make a case for either
thing even though I don't know what the answer is
and, therefore, we need to look at it from the
point of view of getting the facts, whether there



FF4

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

are mechanisms of getting the facts from epidemiologists or what have you.

Q. Okay, let's look at another aspect of the thing then, Doctor.

A. Yes.

Q. On page 4 of the report, perhaps we can start this way.

A. Yes.

Q. We have referred already today to a number of children who died at a time when they were already scheduled to go to surgery.

A. Yes.

Q. And, as we have said, we have agreed, you and I, I think, the physicians cannot predict with any certainty the moment that a patient will die no matter how sick that patient may be or how well he appears to be, is that right?

A. I think that is true, yes.

Q. But is it fair also, Dr. Bain, that over the course of years and with experience you do acquire some capacity with a margin of error, it may be substantial, to make some reasonable prediction of how long a patient may be expected to survive?

A. Yes, you get your knuckles



FF5

1

2

wrapped pretty badly at times, yes.

3

Q. Yes.

4

A. So that if one person were

5

looking at all these that might hold but when you

6

get a variety of people, yes.

7

Q. All right. We have seen this

8

morning that children who were scheduled for surgery

9

and of whom it might therefore reasonably be said

10

that they were expected to survive until surgery

11

did not, and there may be nothing significant about

12

any one of those cases but as I look at page 4 of

13

the report I see you have particularly noted that

14

the reason Bilodeau is in this Group 1B is that he

15

died a little sooner than may have been expected.

16

When I go to page 6 of the report you say of ---

A. Excuse me.

17

Q. Yes.

18

A. These were not - that's the

19

point I wanted to make clear that in my Group 1B,

20

if you turn back to page 2, I didn't raise these

21

questions, these questions were raised by the

22

attending ---

Q. That's right.

23

A. Or someone.

24

Q. But indeed if the questions are

25

25



FF6

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

raised by those who are actually ---

A. That's all I had to go on.

Q. Yes, of course.

A. I may not have thought that myself had I seen them, but we will never know that.

Q. Well, no, but you do know, Doctor, that it appears from the chart that those who did see them.

A. Correct.

Q. Were a bit surprised that the child died just when he did?

A. That's right, yes.

Q. Yes. When we go to page 6, McKeil, it says he looked reasonably well earlier in the day, he was about to have further heart surgery, the suggestion again there is it not that he died at a time when he was expected to survive to get to the operating room?

A. That's true. But if we go to the next part of the equation is that I had the advantage of an autopsy and having looked at the autopsy I didn't in some of these, not all by any means, in some of these, you know, their judgment was wrong. Their judgment was that he should have lived especially - well, there are several we will



1
2
FF7 come to I suppose.

3 Q. Well, that is true of Kelly
4 Ann Monteith, the next child, isn't it?

5 A. Yes, that had 80 per cent
6 of her left ventricle involved in a coronary,
7 if you want to call it that, an infraction and some
8 of it that had occurred within the preceding 24 hours
9 and, you know, no way, that child should have
10 been dead a long time ago and yet the doctor was
11 surprised that she didn't.

12 Q. Right.

13 A. There isn't - well, I will
14 come to it a little later.

15 Q. Well, Doctor, the proposition
16 is that there is a difficulty in predicting when a
17 child is going to die when you have less than
18 complete information, you have not yet seen the
19 autopsy report, I don't think you need to persuade
20 anybody of that as a proposition.

21 A. No. It wasn't that it was
22 that there were different people with different
23 personalities in medicine, be it nursing, be it
24 medicine, be it anything who I guess some are
25 supreme optimists, some can't accept a defeat, they
are putting everything they have to getting that



FF8

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

child better, be that a nurse, be it anyone and they will latch on to every little thing that is on the good side to the point of what we discussed before as the patient being stable. Therefore, there are others I suppose who are, the majority of them have to always be a little optimistic or you will go crazy.

Q. Yes.

A. But some of them may be a little more realistic but there are some who just can't accept that, as I say, this child is going to get better, it had better get better.

-
-
-



1

FF2/ko

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

Q. Well, that is a lovely thing I suppose.

A. Well, yes, I guess so.

Q. But Doctor, you have got a mix here of, what, six or seven cardiologists down in that Division?

A. Yes, I think there are seven at least, yes.

Q. You may not have been struck by it at the time but I ask you now, looking back over this group 1B, and I have not seen your detailed notes on Group 1A, but from our earlier discussions of these charts with other doctors, same flags that you picked on here occurred in some of those charts too. Looking back over the sweep of this thing were you not a little surprised at the number of cases in which children are reported to have died at a time when they were not expected to die?

A. Well, you know, I suppose - I don't mean to dodge the issue, I don't know how to answer that question.

Q. Well, were you surprised or were you not surprised, that's how you answer the question if I may say so.

A. Well, the only way you are



FF2-1-jc

1

2

going to answer the question is, I was surprised when I read it but at the time I completed it and then read the post mortem report I was surprised that they were surprised.

5

Q. That's true of some of the cases.

6

A. Yes.

7

Q. I understand that?

8

A. That's right. So, you know,

9

I can't generalize. Yes, certainly there was some

10

that - but many of the ones that I looked into, I

11

had the greatest difficulty, you know, it is not

12

only with Kelly Ann Monteith that we both remember but others, and we may come to them.

13

Q. Well, David Taylor was another

14

of them, was it not, where the autopsy results

15

disclosed that he was in rather worse condition than

16

anyone had expected?

17

A. Yes. I'm not sure.

18

Q. Well, there were certainly a

19

number of those, Doctor, I don't deny that. Can we

20

look at another aspect of the thing. It does not

21

appear in the report but I take it you are aware -

22

well, it appears in the report with respect to Group 2

23

but not with respect to the other children that many

24

of the children with whom we are concerned died in

25



FF2-3

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

the small hours of the morning. Was that an observation that you made as you reviewed these charts?

A. The only thing I can think of, I don't know whether I made it or whether it was forced on me. If you notice my opening paragraph where I have said their mode and time of dying was sort of one of the little conditions. So, I guess I must have been a little bit aware of it.

Q. I'm sorry, where is that?

A. Page 1 of my report.

Q. Yes.

A. "The purpose of this review was to determine in retrospect (a) if I would have arrived at any other conclusions ... " et cetera.

Q. "(b) if I would have had concerns of their mode and time of dying."

A. "if I would have had concerns of their mode and time of dying."

Now, you know, that raises a real question and I think there needs to be a little research done on it. I said off the top of my head at the time, gee, everybody dies at night, or most people die at night and then someone else said, well, that isn't so



FF2-4

1

2

it is equally spread through the day. I am not so
sure.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

I was coming from the patients, you
remember, and I suppose they are the ones you
remember when you did come down in the middle of the
night or you were a little surprised the next morning.
I was also coming from the question of SIDS that we
will talk about later and the interesting things about
SIDS is that 75 per cent of the patients with Sudden
Infant Death Syndrome die between - died during not
sleep but nocturnal sleep and that is a very different
thing, mostly between midnight and six in the morning.

I think there needs to be some
research done on that because what is it about sleep,
nocturnal sleep. Well, the only thing I can think of
is that, you know, the parents are paying less
attention because mum is sleeping too. Perhaps the
fetus is different or the baby is different because
it got used to sleeping when mother was sleeping. So,
at that time of night it is acting a little bit
differently. So, most of it is nocturnal sleep and,
the second thing is, that many of them are in that
particular age group that we talked about and that is
this particular time again that SIDS is very common
between one and two months of age. What I would like



FF2-5

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

to see a statistician do, and I will ask them if they haven't done it, is to look at the time of death in babies one to three months of age and whether it occurs during nocturnal sleep.

I think it is a very, very important thing and to my mind that cannot be overlooked and these babies, many of these babies were in that age group.

Q. Yes.

A. Of the SIDS deaths. The McMaster study just backs that right up. Now, you may say in the McMaster study there were prematures but if you look at the McMaster study ---

Q. In an ICU?

A. Pardon me?

Q. In an ICU as I understand it?

A. Yes but if you look at it carefully the highest mortality between midnight and 5 o'clock, 7 out of 10 occurred in babies who had survived for longer than a month and put them right into this group, again, something strange.

Q. But Doctor, with the exception of, possible exception of Jordan Hines --

A. Yes.

Q. -- I am not aware that SIDS



FF2-6

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

has been suggested as cause of death of any of the children that we are talking about.

A. I know, and I didn't say that.

Q. No, I know, but I just wonder how transposable the SIDS statistics and observations are?

A. Well, I think that needs to be looked at because there is something funny about the second and third months of life as opposed to the first. You would think people would be more susceptible to something in that first month than in the second or third and there is also something funny about why SIDS, with babies sleeping most of the time if you're lucky, if you're lucky most of the day.

Q. Yes.

A. Why do they die during nocturnal sleep?

Q. Yes.

A. I don't know.

Q. I don't know.

A. But, you know, that is something that I think, if your statisticians haven't looked at the figures with that in mind, because, you know, when you come down to SIDS you are not supposed to find anything at autopsy.



FF2-7

1

2

Q. Yes.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

A. But surely people who have already some underlying disease like heart disease et al are sitting, maybe a sitting duck for whatever those other things are with SIDS. So, I will do that research myself.

Q. I am certainly glad you weren't asking me to do it. I take it though, Doctor, that - well, I ask, are you aware that to the extent that we have any comparative information available to the Commission to date that consists of the timing of deaths on the cardiology wards for two 9-month periods preceding the one in which we are interested and two following and that on the basis of the information there, there is nothing to suggest that death in the hours between midnight and six is a particularly common phenomena, except in this period that we are focussing upon. Are you aware of that information?

A. I'm not sure whether I am or not but if you tell me it is so I would believe it but there are a lot of influencing factors that I think is something that the statisticians, the epidemiologists have to get into. I am already breaking my rule and saying that I am going to comment on it before the evidence is there.



FF2-8

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

Q All right. Well, I take it
the answer to the question that I originally asked
you is that if you did observe the time of deaths
of many of these children, it was not a matter
that caused you particular concern?

A. That is correct.



1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

GG
DM/cr

Q. At the time that you wrote your report, were you aware that many of the deaths and in particular the night-time deaths had apparently occurred in the presence of the same nursing team, not always precisely staffed in the same way?

A. That was all in the newspapers before I started my report.

Q. Did that cause you any concern considering the number of deaths you were looking at?

A. Certainly as I looked at everything, you know, some of those things - that is again what an epidemiologist has to decide upon. If a patient dies at that time of the night, is that same nursing team going to be on. If the nursing team is on is that person going to be on, you know, it is a self-serving sort of a situation.

Q. Is it?

A. Well I am asking you I suppose, or I am asking the epidemiologist, you know, if I am on every night and people die every night, they are dying while I am on.

Q. What if you are not on every night and those are the nights they die?

A. That is what one has to look



1

2

at and see how many are of that nature.

3

4

Q. All right, we will have
to ask the epidemiologist.

5

A. Yes.

6

7

8

9

10

11

12

13

Q. Doctor, I don't propose to
ask you about any of the other individual children
in Group 1B or about those in Group 1A, because I
take it that in your judgment those children's deaths,
with the possible exception of the three you identified
in Group 1B, apart from those three, all the other
children in 1A and 1B died deaths which you believed
to be entirely consistent with their clinical
conditions?

14

A. I raised questions, Mr.
Lamek.

15

16

17

18

19

20

21

22

23

24

25

Q. Yes.

A. As I told you this morning.

Q. And resolved them?

A. I was concerned about things.
No, even since and on the business of convulsions.

Q. Yes.

A. That is bothering me and
I found, I tried to see if somebody would follow that
one up a bit because that is why I don't want to turn
off thinking by saying it is this, that, or the other



1
2 thing. Because we have 16 children who convulsed.
3 Why? It is not a feature, not a reported feature of
4 dig. poisoning.

3
5 Q. Not in a high number of
6 cases?

7 A. Darned few, you know, as
8 you said it is 6 per cent in one series, or 8 in ---

9 Q. And 3 in the other.

10 A. Yes. So I think we must
11 not shut our minds to other things perhaps occurring.

12 Q. On the basis of the information
13 that is available to you at the moment, subject to
14 that unanswered question.

15 A. Yes.

16 Q. Your view is that the
17 children died, their deaths are consistent with their
18 clinical conditions?

19 A. Yes.

20 Q. And that other than matters
21 such as the convulsions into which you think
22 enquiries should be made, there was nothing that you
23 saw in the charts of these other children to make
24 you suspect that they died of anything other than
25 natural causes?

A. That is correct. I found



1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

nothing, you know, I suppose I am sitting here again and I am trying to be honest, I think that is one of the things that upset me more than anything, the so-called carbon copy or whatever. I go through the charts and I don't find any reference whatsoever to digoxin in any way, shape, or form, or any levels done. So I say, well, why did they die? So it just seemed to me that we were shutting off thinking by that approach. Now, I have got that off my chest.

Q. It was important, Dr. Bain, that you have the opportunity to say that, I know it is important to you. Doctor, thank you very much. Thank you, sir.

THE COMMISSIONER: Mr. Roland, what is your view?

MR. ROLAND: Well I think I can deal with this witness right now because I have no questions.

THE COMMISSIONER: Oh, you certainly can.

Is this your client, Miss Chown?

MS. CHOWN: He is not our client, no, Mr. Commissioner.

THE COMMISSIONER: All right.

MR. BROWN: I have no questions, Mr. Commissioner.



1
2 THE COMMISSIONER: Mr. Strathy, I am
3 sure you have, have you, do you want to go now or do
4 you want to ---

5 MR. STRATHY: I would be grateful,
6 Mr. Commissioner, if I could start tomorrow morning.

7 THE COMMISSIONER: All right. I think
8 it is incredible generosity that exudes from me at
9 all times. We will rise that extra five minutes early.

10 MR. STRATHY: That is kind of you.

11 Can I ask one thing?

12 THE COMMISSIONER: Yes.

13 MR. STRATHY: Can I ask Mr. Lamek
14 through you, Mr. Commissioner what the plans are as
15 far as the information that has been gleaned in the
16 digoxin conference. Are we going to be made aware
17 of what took place at some point and if so, how?

18 MR. LAMEK: Mr. Commissioner, that
19 is an absolutely proper question. I don't think it
20 will take me very long to tell you the information that
21 was gleaned.

22 I do want to speak to either Mr. Scott
23 or Mr. Roland, indeed I have already mentioned it to
24 Mr. Roland. I can only say that security at the
25 conference was of the highest order, you felt as though
you were trying to get into Fort Knox or something,



1
2
3 which suggests to me that the Hospital may not be
4 very keen to have full disclosure of what was said
5 there. I want to know what I can say and whatever the
6 Hospital agrees to my saying I will be perfectly happy
7 to say it. I think the easiest thing may be to supply
8 a written report to everyone to the extent that I am
9 free to do so.

10 At least I may say this I think without
11 any fear or breaching confidences, there were no
12 earth shattering disclosures. Is that fair, Dr. Bain,
13 you were there too?

14 THE CLAIMANT: Very fair, there was a
15 lot of admission of ignorance.

16 THE COMMISSIONER: I don't know what
17 is going to happen if somebody starts to cross-
18 examine Dr. Bain. I think we had better resolve that
19 problem if we can tonight for tomorrow. However,
20 I think we must accept the only witnesses we have
21 seem to indicate that there wasn't a great deal of
22 revolutionary information. Did you accept that, Dr.
23 Bain?

24 THE WITNESS: Yes, I think the most
25 important thing, Mr. Commissioner, was --

THE COMMISSIONER: Be careful.

THE WITNESS: You know, it is perfectly



1

2

all right, was that there is a great deal, a great
lack of knowledge.

3

4

THE COMMISSIONER: A great deal to
be learned.

5

6

THE WITNESS: There is a great deal
to be learned --

7

8

THE COMMISSIONER: We all feel a great
deal better.

9

10

11

THE WITNESS: Yes I think all of us
felt better because it was a pretty high pressured
group. I think it got them together and pointed the
way to research that needs to be done.

12

13

THE COMMISSIONER: Yes, all right
until 10 o'clock tomorrow morning.

14

15

16

---Whereupon the hearing adjourned at 4:28 p.m. until
10:00 a.m. Thursday, the 3rd day of November, 1983.

17

18

19

20

21

22

23

24

25

